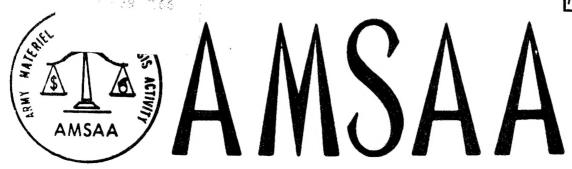
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ARTILLERY FORCE SIMULATION MODEL USER MANUAL

RICHARD S. SANDMEYER

JANUARY 1979

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U. S. ARMY MATERIEL SYSTEMS ANALYSIS ACTIVITY
ABERDEEN PROVING GROUND, MARYLAND

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20. ABSTRACT (Continue on reverse side if recognary and identify by block number)

The performance in combat of a division slice of BLUE artillery is a function of its weapon-ammo mix, ammo basic load and resupply, fire direction center (FDC) capability, movement policy, firing policy, weapon reliability, and weapon repair capability as well as RED anti-artillery capabilities such as counterbattery acquisition systems, counterbattery fire capability, and electronic warfare capability. These factors are taken into account by AFSM as it calculates the damage that a BLUE artillery force could do to a given RED threat force which is represented by a list of target acquisitions generated by an external war game.

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The User Manual contains:

- - b. A detailed description of the input required to execute the program.
 - c. A description of the output.
 - d. A sample problem with fictitious inputs and the resulting output.
 - e. A glossary defining the important variables in AFSM.

ACKNOWLEDGMENT

The Artillery Force Simulation Model (AFSM) was developed in 1974-1975 to enhance the US Army Materiel Systems Analysis Activity's (AMSAA) capability to evaluate the performance of artillery force mix alternatives against RED threat scenarios produced by Army war gaming models.

The AFSM model has gone through many changes since its original version became operational. The version documented here is current as of May 1978. Documentation, if any, of AFSM changes made after May 1978 will be published separately.

The original AFSM model was given by AMSAA to FT Sill and to TRASANA. Each of those groups has made its own extensive changes to AFSM and now maintains a separate variant of AFSM. In addition, ARRADCOM at Dover, NJ has been given a copy of a more recent version of the AFSM model. Because of the number of different versions of AFSM in existence at these agencies, it is important to state that this manual applies in full only to AMSAA's AFSM program.

The original version of AFSM was developed in 1974-1975 for the US Army Ballistic Research Laboratory's BRLESC I and II computers by the following AMSAA personnel: Mr. E. Stauch, Mr. E. Morrow, Mr. B. King, and Mr. J. Blomquist.

The AFSM model has undergone a number of changes since the original version. The major changes made by AMSAA personnel are listed below:

- a. An attrition routine to approximate the losses of BLUE artillery tubes to RED counterbattery fire was developed by Mr. C. Thomas and Mr. N. Winslow.
- b. A CLGP (COPPERHEAD) submodel to allow the use of cannon launched guided projectiles was added by Mr. E. Stauch and Mr. J. Blomquist.
- c. A revised and expanded attrition routine to play RED counterbattery fire in greater detail was developed by Mr. R. Sandmeyer.
- d. A counterbattery suppression model was added by Mr. R. Sandmeyer.
- e. A modification to allow variable size battalions having more than one weapon system was made by Mr. R. Chandler.
- f. An improved munition effectiveness model including posture sequencing was added by Mr. R. Sandmeyer.
- g. A GSRS (General Support Rocket System) submodel was developed by Mr. R. Chandler.

ACKNOWLEDGMENT (cont)

h. An improved massing routine was developed by Mr. E. Stauch.

In addition, Mr. R. Chandler deserves credit for modifying the AFSM program for use on the UNIVAC 1108 computer. Mr. R. Sandmeyer and Ms. D. Frederick modified the program for use on the CDC 7600 computer.

Armament Systems, Inc. personnel responsible for documentation of the program were John P. Virbila and James A. Buckner. Review of the program documentation progress as well as assistance in understanding the program coding were provided by Richard Sandmeyer of AMSAA. The documentation also relied heavily on a partial variable glossary prepared by Mr. R. Chandler and on an input definition list from an earlier version of AFSM prepared by Mr. E. Stauch and typed by Ms. C. Roberts.

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ARTILLERY FORCE SIMULATION MODEL USER MANUAL

SECTION 1 INTRODUCTION

BACKGROUND

The Artillery Force Simulation Model (AFSM) is an off-shoot of earlier artillery simulation models. The earliest ancestor, called "LEGAL MIX", was prepared at AMSAA using the FORAST language for the Ballistic Research Laboratory (BRL) BRLESC I computer. Later versions of LEGAL MIX, as well as AFSM have been written in the FORTRAN programming language for CDC 7600 and UNIVAC 1108, as well as the now deceased BRLESC I and II computers.

PROBLEM INTRODUCTION

There are two sets of inputs required in order to execute AFSM. These inputs consist of target information (on magnetic tape) and user-prepared parameters for the battle scenario (on cards). The target array input tape for AFSM is an output product of either the "DIVWAG" or "DIVLEV" wargames. Section 3 of this manual defines these two inputs in detail. In defining the target inputs to AFSM, the player is allowed to structure Red units with personnel, tanks, armored personnel carriers, trucks, artillery tubes, radars, and/or missile or rocket launchers. Terrain features which can be accommodated are open areas, wooded areas, towns, and grassy environments.

A scale of military worth values for the various type tactical elements on the target list is used for establishing a priority list for target attack and for segmenting targets into categories which will control the level of attack and ammunition expenditure against a target. A measure of BLUE force performance is achieved by totaling the military worth values for damaged targets.

METHODOLOGY

The simulated artillery battle is fought by selecting RED targets for fire according to their time of acquisition in the battle area and their priority. Fire missions can be initiated by calls from forward observers to the direct support battalion Fire Direction Center (FDC) or by calls from other target sensors to Group or Division/Artillery (D/A) level FDCs. Figure 1-1 is a sample artillery fire support organization which shows the relationships of the various different echelon FDCs and the order in which they communicate in response to a fire mission.

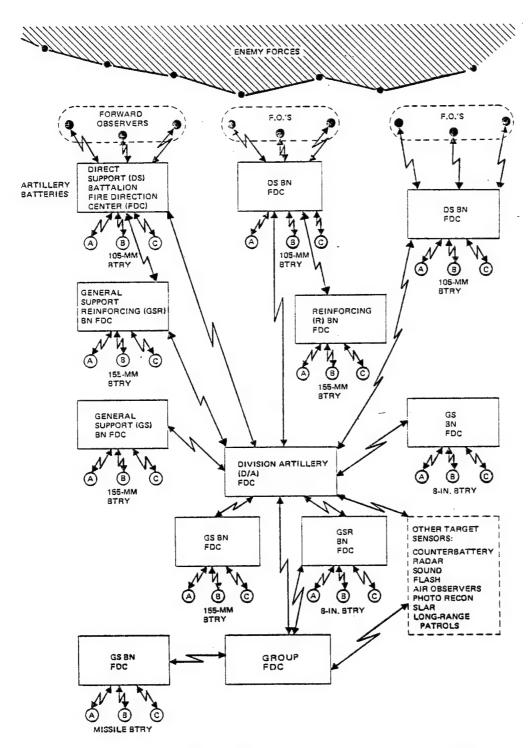


FIGURE 1-1. Artillery Fire Support Sample Organization.

The Direct Support Battalion (DS BN) FDC is normally located closest to the forward edge of the battle area (FEBA). A DS BN may be organized as a stand alone unit, in which case requests for additional fire (RFAF) will go directly to the D/A echelon FDC, or the DS BN may have a reinforcing battalion (R BN) FDC assigned. The DS BN with an R BN assigned willissue an RFAF first to the R BN, then to the D/A FDC if the R BN cannot respond. Another type of organizational assignment is the General Support Reinforcing Battalion (GSR BN). The GSR BN will respond to RFAFs from either the DS BN FDC or the D/A FDC when assigned at that echelon. Similarly, GS BN FDCs and GSR BN FDCs can be placed in the organization at the D/A and/or the Group level and will respond to RFAFs issued by their controlling FDCs. Other target sensors, such as counterbattery radar, sound, flash, air observers, photo reconnaissance, side-looking airborne radar, or long-range patrols, initiate fire mission calls directly to the Division/Artillery or Group level FDCs.

Figure 1-2 depicts a simplified logic diagram for the model. Each fire mission, as it advances to the top of the fire mission queue, is examined by the program, and the program in turn examines the resources of the appropriate FDC to see whether or not batteries assigned to that FDC can engage the target. If so, battery fire occurs, target damage is assessed, and the probability that the BLUE battery has been acquired by the RED forces is calculated. If the FDC resources are not sufficient or available to fire the mission, the program will generate a BLUE fire mission request for additional fire (RFAF) which is added to the fire mission queue in the appropriate place according to time and target priority. If, after firing, the BLUE battery was acquired by the RED forces, the program will schedule RED counterbattery fire which is added to the fire mission queue in the appropriate place Table 1-1 shows the request for fire sequence according to time. used by AFSM to examine battery resources within each battalion in order to satisfy requests for fire. If the mission originated at a higher echelon (D/A or Group), then that echelon's resources (i.e., assigned battalions) would be examined before any RFAF's would be sent to DS level.

If the BLUE battery was not acquired, the game clock will advance and the next fire mission from the queue will be processed. When the next fire mission arriving at the top of the queue is a RED fire mission, the RED batteries will fire the scheduled number of rounds for the mission, and an assessment is then made of damage to the BLUE battery. The program will then return to the queue to process the next fire mission. During each return to the fire mission queue, the program checks the gameclock. If the clock has advanced I hour since the last printout of the simulation, another printout will occur. If the gameclock exceeds maximum gametime (TMAX), a final printout will be made and the run will terminate. The program also makes a 1/4 hourly time check for the performance of repair and maintenance (RAM). When it is time for the 1/4 hourly RAM check, the program will remove gun tubes

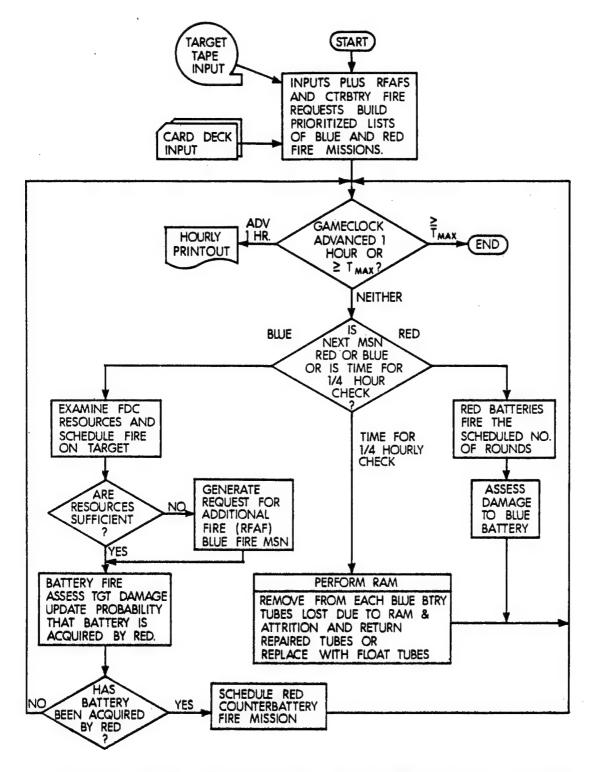


Figure 1-2. Artillery Force Simulation Model (AFSM) General Logic Flow.

TABLE 1-1. FDC Fire Ordering Sequence

Request for fire orig. by:	FDC receiving request for fire	Fire ordering sequence - (AFSM examines battalion Battery resources in the following sequence until resources are found).	
Forward Observer (F0) Direct Support Battalion (Assigned to FO)		DS BN, DS-R BN, DS-GSR BN, DIV-GS BN, DIV/GROUP-GSR BN, any DS-GSR BN not checked, other DS and DS R BNs, GROUP-GS BN.	
Other target sensors	Division/ Artillery	DIV-GS BN, DIV/GROUP-GSR BN, DIV/DS-GSR BN, DS BN, DS-R BN, GROUP-GS BN.	
	GROUP (Corps Level)	GROUP-GS BN, DIV/GROUP-GSR BN, DIV-GS BN, DIV/DS-GSR BN, DS BN, DS-R BN.	
Definitions - BN = Battalion DS = Direct Support R = Reinforcing GSR = General Support Reinforcing GS = General Support			

lost due to attrition or RAM from each BLUE battery and will return repaired tubes or make replacements with float tubes if available. After each RAM action is accomplished, the program again returns to the fire mission queue to process the next fire mission.

The artillery force is changed by the user varying the number and types of BLUE force FDCs (up to 13), the number of different weapons systems in use (up to 20), the different round types available for fire (up to 25), and the round I.D.s used per environment/posture combination (up to 10). Also, the BLUE force boundaries (x- and y- coordinates) are defined by the user. The FEBA is allowed to move up to 10 times during the battle when the user specifies the movement coordinates and the time of movement in the input card deck. Battery priority values are entered and the organization of the BLUE force scenario is defined in input card types 59 through 64 (refer to Section 3 for a detailed explanation of input card types). The user can also specify up to 13 Blue force equipment failures for RAM purposes when he constructs the input card deck battle scenario.

The final definition of the artillery force is accomplished when the user describes the RED artillery force. Up to eight RED battalion weapon systems can be specified and an unlimited number of RED battalions can be defined in each input card deck. These card parameters control the information which is read from the magnetic tape of target information provided from the previously run war game model "DIVWAG" or "DIVLEV".

SECTION 2

CONCEPTUAL FLOWCHART

This section is intended for and oriented towards the reader who is concerned with the basic content, logic, and computational flow of the AFSM program. It is not intended to explain or to delineate all of the machinations of program coding, subroutine interaction, or rationale in specific terms.

The conceptual flowchart for the AFSM program, including narrative steps, is presented in the pages that follow. The narrative steps explaining the flowchart are indicated on the flowchart by the numbers enclosed in hexagons. In addition, all input connectors, whether on-page or off-page types, are numerically ordered in a monotonically increasing fashion from the start to the end of the flowchart.

STEP 1:

Specify variables in COMMON. Enter data for the mix being played via calls to the six subroutines that are required for reading punched cards.

STEP 2:

Read target/mission data from Logical Unit No. 3 up to the next game arrival time. Store data in the PREQ array. Set GAMCLK to the arrival time of next set of data. Transfer target/mission data from the PREQ to the QUE array, dropping any target/missions that have been defeated. Order the QUE array by priorities as follows:

- Targets by Military Worth
- 2. Meteorological missions
- 3. Survey and Artillery Target Intelligence missions
- 4. Fire plans

STEP 3:

If there are no Red counterbattery fire missions scheduled to occur before the next Blue (QUE) mission, continue with Step 4. Otherwise, execute the Red counterbattery fire mission scheduled for this time on the KYUSKY array. Each Red battery scheduled to fire on this mission fires as many of its scheduled rounds as its current status, considering suppression (if played), defeat status, and tube losses, permits.

If the target Blue battery has moved since the fire was scheduled, the counterbattery fire mission has no effect. Otherwise, assess and record the damage done to the Blue battery by this Red counterbattery fire mission. Remove this Red fire mission from the KYUSKY array. Return to beginning of this step to check if more Red counterbattery fire missions are scheduled to occur before the next Blue (QUE) mission.

STEP 4:

Check the current target mission, ordered by priority, in the QUE array. Determine if the FDC, to which the mission is assigned, has sufficient time to process the mission. If insufficient time is available for processing, drop the mission from the QUE array and transfer to Step 28. Otherwise, check to see if this is a fire mission. If it is, transfer to Step 8. If it is not a fire mission, continue with Step 5.

STEP 5:

Add this mission to the WORK array for this FDC and delete the mission from the QUE array. If it is too late to consider processing this mission, increment the unaccomplished mission counter, drop the mission from the QUE array, and transfer to Step 28. Otherwise, continue with Step 6.

STEP 6:

If there is no time left at this FDC, transfer to Step 28. Otherwise, charge the time used for processing to the FDC clock. If processing of the mission has not been completed, transfer to Step 28. If processing has been completed, continue with Step 7.

STEP 7:

If this is a fire plan mission and it has not been assigned to a battalion level FDC, generate fire plan messages from Division or Group to the appropriate battalions. Store these messages in the PREQ array. Regardless of the mission type, remove the mission from the WORK array for this FDC and increment the accomplished mission counter. Transfer to Step 28.

STEP 8:

This step is executed when a fire mission is to be processed. If the mission has not been assigned to a battalion FDC, transfer to Step 24. Otherwise, order the batteries in the battalion based on the following criteria:

- Battery priority (if used)
- 2. Is battery in position?
- 3. Is battery within range of target?
- 4. Busy status of battery
- 5. Availability of ammunition
- 6. Does battery have the minimum number of tubes up and in operating condition?
- 7. Is battery undefeated (if defeat of batteries due to personnel losses is played)?
- 8. Is battery unsuppressed (if suppression is played)?

If this is not a potential CLGP mission transfer to Step 17. Otherwise continue with Step 9.

STEP 9:

Check the current battery's availability based upon the following:

- 1. Is battery within range of target?
- 2. Is battery currently free from other fire missions (busy status)?
- 3. Does battery have CLGP rounds available?
- 4. Does battery have sufficient number of tubes available?
- 5. Can battery fire CLGP rounds at the present time?

If the answers to all of the above are affirmative, transfer to Step 12. If all batteries in the battalion have been checked, continue with Step 10. Otherwise, return to the start of this step and check the next battery in the battalion.

STEP 10:

If the battalion just checked and found unable to fire CLGP has a reinforcing or GSR battalion assigned to it, then make that reinforcing or GRS battalion the one to be considered for this CLGP mission, and return to Connector ten in Step 8. Otherwise, continue with Step 11.

STEP 11:

Charge time spent to battalion FDC. Reset Military Worth value for this target to its regular value and determine if there is sufficient time for regular cannon fire. If there is not sufficient time, change the mission to an ATI report and transfer to Step 28. Otherwise, change the mission to a regular FO fire mission at the DS battalion to which the CLGP mission was originally reported and return to Connector ten in Step 8.

STEP 12:

If the FO does not have sufficient view time to fire one or more CLGP rounds, return to Step 11. Otherwise, determine the number of CLGP rounds to be fired based upon the number of rounds available and the FO view time. Determine the effects of the CLGP rounds against tanks, APCs and trucks. Continue with Step 13.

STEP 13:

If this fire mission is the first one by the current firing battery from this site, begin the Red force's probability of detecting and acquiring the firing Blue battery and continue at Step 14. If it is not the first fire mission from this site and the battery at the site has been acquired within the Red force's "target memory" time, transfer to Step 15. Otherwise continue with Step 14.

STEP 14:

Initialize or update, as appropriate, the Red force's probability of detecting and then acquiring the firing Blue battery. If the probability of acquisition exceeds 0.5, continue with Step 15. Otherwise transfer to Step 16.

STEP 15:

Schedule Red CB fire against the acquired Blue battery. Order the Red battalions by weapon type, range, and echelon. Mass enough batteries to fire the number of rounds required by the Red CB doctrine, or by firing as many rounds as possible if the CB doctrine cannot be met. In massing the Red batteries, consider the following:

- Suppression status (if played)
- 2. Defeat status
- 3. Number of tubes up in Red battery

- 4. Number of rounds left in AMMO supply
- 5. Range to target
- 6. Time available
- 7. Movement status

Enter record of batteries massed, number of rounds each battery is to fire, and time at which they are to be fired on KYUSKY array for later execution in proper time sequence. Continue with Step 16.

STEP 16:

Remove mission from the QUE array. Charge the battalion FDC for processing time. Transfer to Step 28.

STEP 17:

Order the rounds for this battery considering only those rounds allowed against the target's estimated posture and environment. Determine the weighted lethal area for each round type based either on weight or cost per round. Sort the HE and ICM rounds in order of weighted lethal areas. Determine round availability based on the following:

- 1. Basic load and resupply rate
- 2. Constraint on number of volleys
- 3. Rate of fire
- 4. Use of rounds saved for fire plans if MW of target is greater than that of fire plan target

Determine the number of rounds allowed to be fired by first battery for best available round type. Apply the effects cutoff value as volleys are fired in trying to attain desired attack level. Assess damage to target and increment counters for rounds fired by battery, time used by battery, and missions fired by battery. Continue with Step 18.

STEP 18:

If this fire mission is the first one by the current firing battery from this site, begin the Red force's probability of detecting and acquiring the firing Blue battery and continue at Step 19. If it is not the first fire mission from this site and the battery at the site has been acquired within the Red force's "target memory" time, transfer to Step 20. Otherwise continue with Step 19.

STEP 19:

Initialize or update, as appropriate the Red force's probability of detecting and then acquiring the firing Blue battery. If the probability of acquisition exceeds 0.5, continue with Step 20. Otherwise transfer to Step 21.

STEP 20:

Schedule Red CB fire against the acquired Blue battery. Order the Red battalions by weapon type, range, and echelon. Mass enough batteries to fire the number of rounds required by the Red CB doctrine, or by firing as many rounds as possible if the CB doctrine cannot be met. In massing the Red batteries, consider the following:

- Suppression status (if played)
- 2. Defeat status
- Number of tubes up in Red battery Number of rounds left in AMMO supply
- Range to target
- Time available
- 7. Movement status

Enter record of batteries massed, number of rounds each battery is to fire, and time at which they are to be fired on KYUSKY array for later execution in proper time sequence. Continue with Step 21.

STEP 21:

If the desired attack level has been reached, transfer to Step 23. Otherwise, return to Step 17 for additional batteries of the battalion, if needed, to attain the desired attack level. If, after all batteries in the battalion have been checked, and the desired attack level has not been achieved, check to see if the battalion has a reinforcing or GSR battalion assigned to it. If not, continue with Step 22. Otherwise consider the reinforcing or GSR battalion and return to Connector ten of Step 8.

STEP 22:

If the mission came from Division or Group, continue with Step 23. Otherwise, generate a RFAF to a higher echelon FDC, add the RFAF mission to the PREQ array and reset the game clock. Continue with Step 23.

STEP 23:

If any rounds have been fired by this battalion, remove the fire mission from the QUE array. Charge appropriate times to the battalion FDC and battery clocks. Transfer to Step 28.

STEP 24:

This step is executed whenever a Division or Group FDC fire mission has been specified. If the fire mission has been assigned to Group FDC, the battalions assigned to Group are ordered as follows:

1. General support battalions at Group level

2. General support reinforcing battalions from Group

3. Missile battalions

When the fire mission has been assigned to Division FDC, the battalions are ordered as follows:

1. General support battalions at Division

2. General support reinforcing battalions from Group

3. General support reinforcing battalions at Division

4. Direct support and reinforcing battalions

In either case, program execution continues with Step 25.

STEP 25:

Check the capability of each battery of the assigned battalion to contribute to this fire mission based upon the following criteria:

1. Is battery in firing position?

2. Is battery within range of target?

3. Is proper ammunition available at the battery?

4. What is the "busy" status of the battery?

5. Does the battery have the minimum number of tubes up and available for the mission?

6. Is battery undefeated?

7. Is battery unsuppressed?

If the answer to any of the above criteria is negative, transfer to Step 26. Otherwise, generate a message to the assigned battalion FDC stating required effects. Move GAMCLK back if required to do so. If the required attack level has not been reached and the battalion massing limit has not been reached, transfer to Step 26. Otherwise, charge the appropriate time to the assigned battalion FDC, delete the mission from the QUE array, and transfer to Step 28.

STEP 26:

If all assigned battalions have not been processed, return to Step 25. If all battalions have been processed and this fire mission has not been assigned to Group, transfer to Step 27. If the fire mission was not sent up to Group by Division, generate a RFAF to Division and remove fire mission from the QUE array. If the fire mission was sent up to Group from Division and battalion fire missions were generated, remove this current fire mission from the QUE array. In either case, charge the appropriate time to Group FDC and transfer to Step 28.

STEP 27:

If this fire mission was sent down to Division from Group and there were battalion level fire missions generated, or if a RFAF message was sent to Group, delete this fire mission from the QUE array. Charge the appropriate time to Division FDC and continue with Step 28.

STEP 28:

If all target/missions in the QUE array have been processed, continue with Step 29. Otherwise, return to Step 3 to process next target/mission on the priority list.

STEP 29:

Use any remaining time up to GAMCLK to complete processing of missions stored in the WORK array for each friendly FDC in the game. Move all FDC and battery clocks up, if necessary, and charge time increments to idle times as required. If 15 minutes or more have transpired since the last RAM check, continue with Step 30; otherwise, transfer to Step 33.

STEP 30:

Determine number of weapons to be returned to this battery of the Blue force at this time. Check for attrition failures and, if there are none, transfer to Step 31. Otherwise, store the short-term and long-term failures in the TUBIN array. If a permanent failure has been inflicted, float a weapon to this battery, if one is available. Continue with Step 31.

STEP 31:

Update the status of EFC rounds and distance traveled by battery at this time. Determine firepower mobility, and tube change status of battery. Continue with Step 32.

STEP 32:

If this battery requires a tube change or has suffered a reliability failure, store short-term, long-term, and tube change failures in the appropriate slots of the TUBIN array. Assign a float weapon to this battery if a permanent failure has been incurred and a float weapon is available. Update the tubes available status for this battery. If more batteries remain to be processed, return to Step 30; otherwise, continue with Step 33.

STEP 33:

If the game clock (GAMCLK) has advanced 1 hour, print the cumulative results of the game at this time. If the maximum game time has not been met or exceeded, return to Step 2 to enter additional target/mission data from Logical Unit No. 3. Otherwise, halt execution of the AFSM program because simulation of the game has been completed.

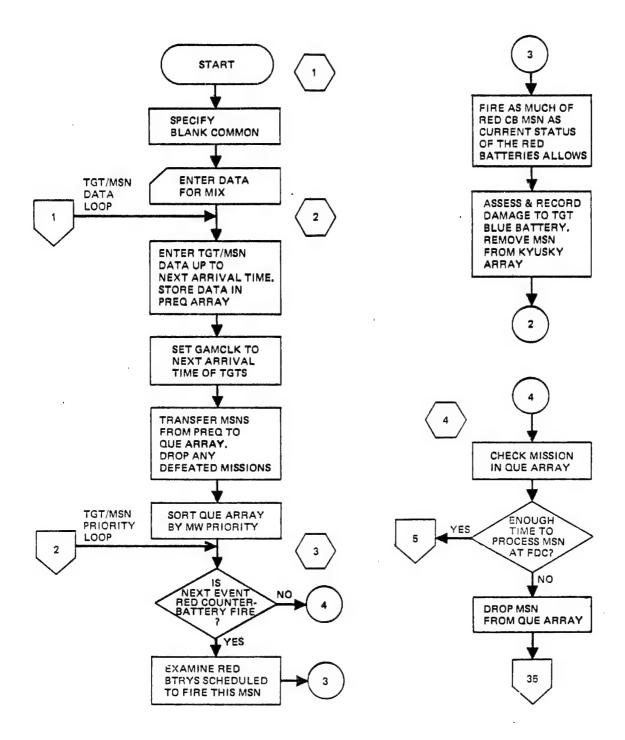


Figure 2-1. Conceptual Flowchart, AFSM Program (Page 1 of 10)

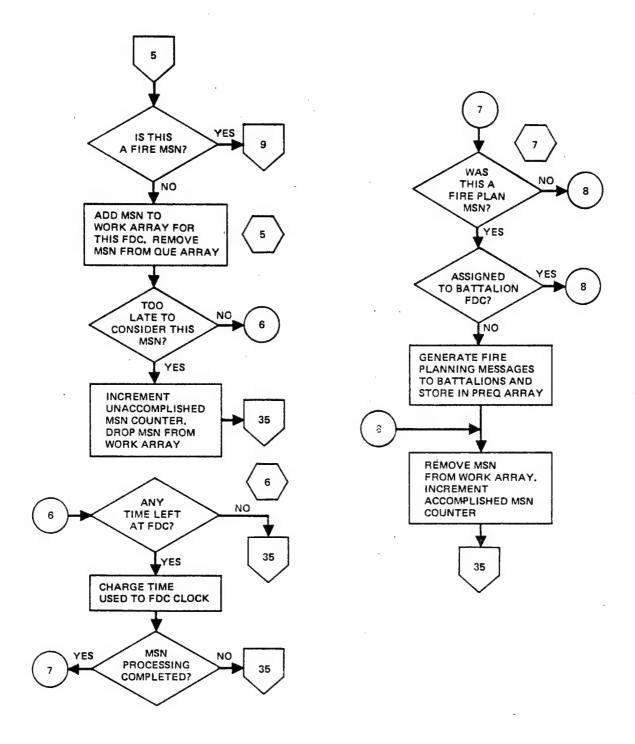


Figure 2-1. Conceptual Flowchart, AFSM Program (Page 2 of 10)

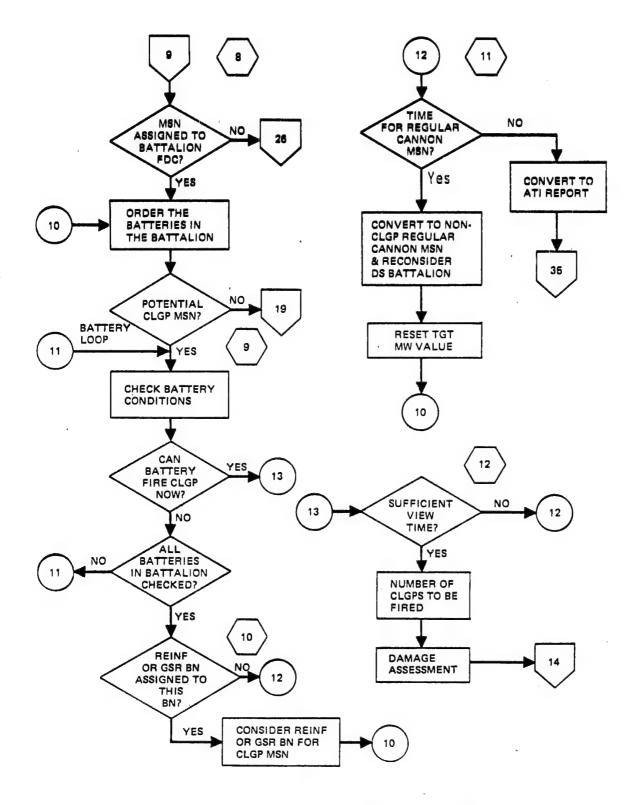


Figure 2-1. Conceptual Flowchart, AFSM Program (Page 3 of 10)

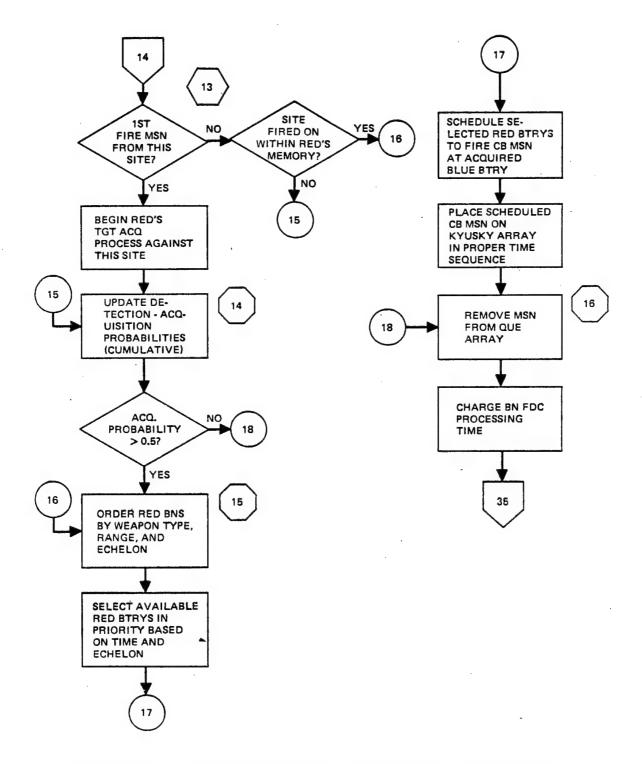


Figure 2-1. Conceptual Flowchart, AFSM Program (Page 4 of 10)

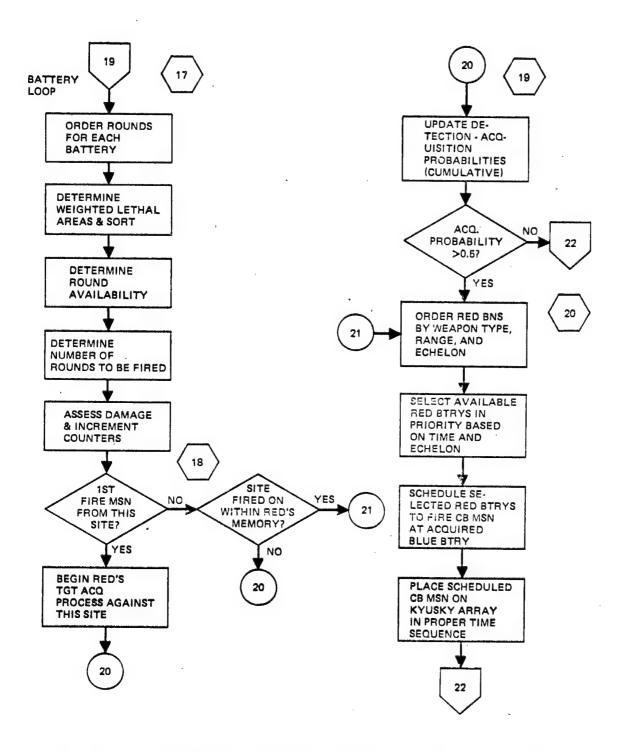


Figure 2-1. Conceptual Flowchart, AFSM Program (Page 5 of 10)

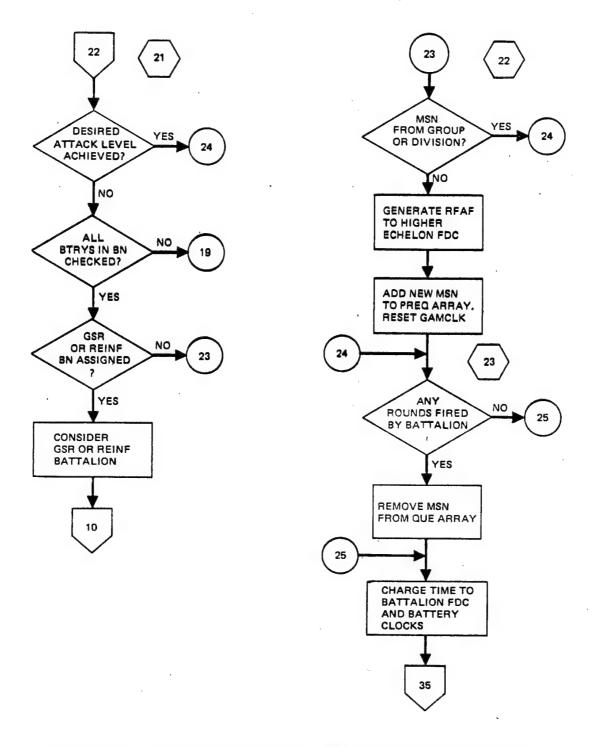


Figure 2-1. Conceptual Flowchart, AFSM Program (Page 6 of 10)

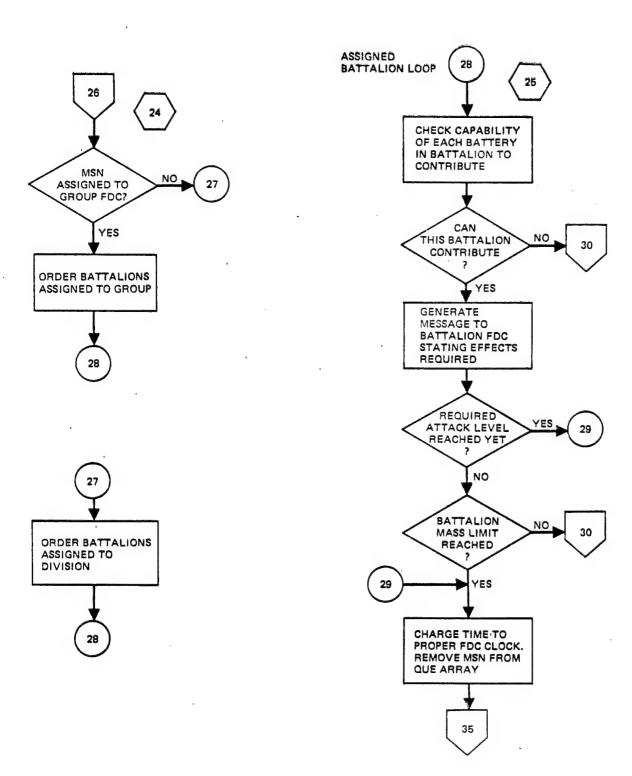


Figure 2-1. Conceptual Flowchart, AFSM Program (Page 7 of 10)

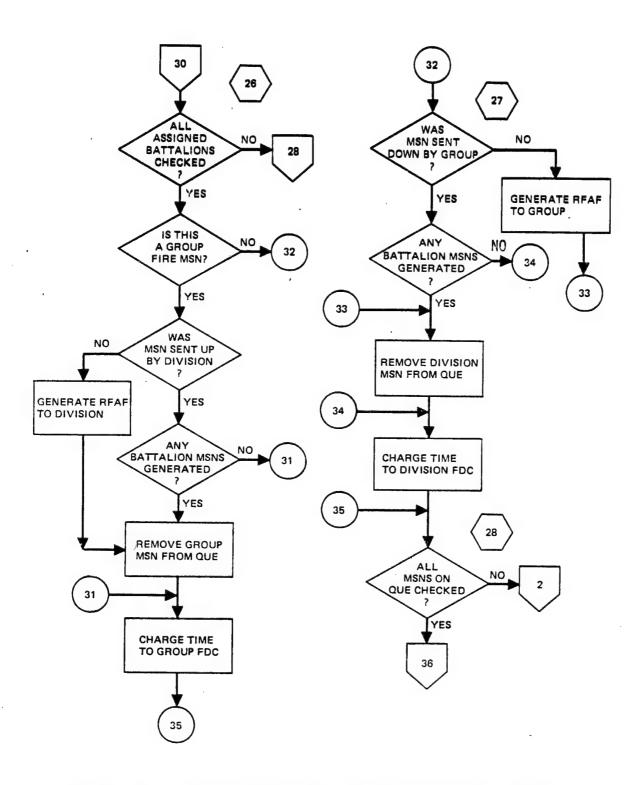


Figure 2-1. Conceptual Flowchart, AFSM Program (Page 8 of 10)

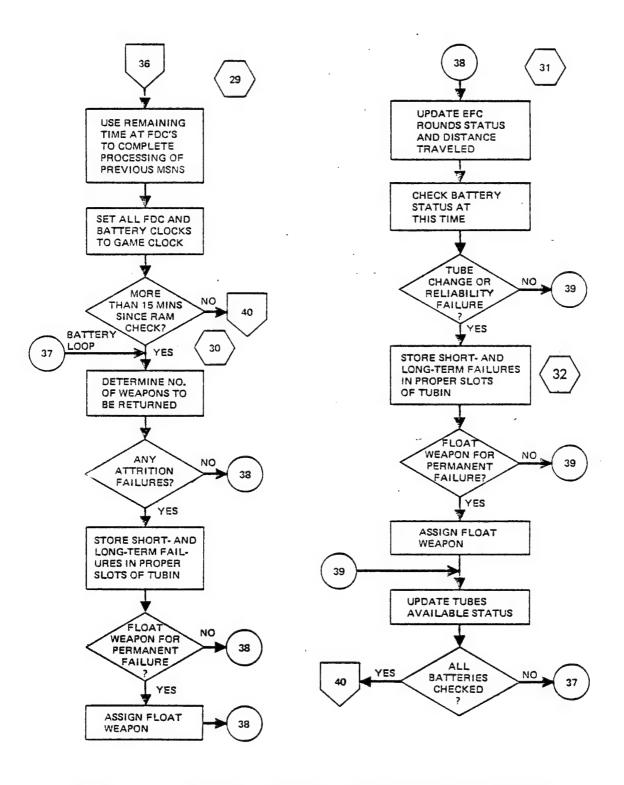


Figure 2-1. Conceptual Flowchart, AFSM Program (Page 9 of 10)

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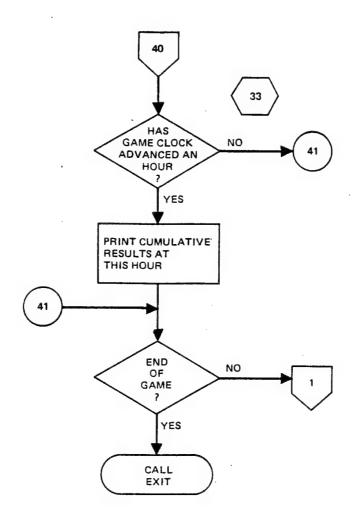


Figure 2-1. Conceptual Flowchart, AFSM Program (Page 10 of 10)

SECTION 3

INPUT

This section is used to describe the data input requirements for proper execution of the Artillery Force Simulation Model (AFSM) program. The AFSM program requires both magnetic file (Logical Unit No. 3) and punched card inputs for program execution. Both types of data input, as well as a typical punched card data deck setup, are discussed in the pages that follow.

LOGICAL UNIT NO. 3 INPUT

The majority of target data required during execution of the AFSM program are entered from a magnetic file (Logical Unit No. 3). This file contains a variable number of as many as eight different type records that may be entered during program execution. The first two type records are always required, and one or more types of the remaining six type records are required, depending upon the complexity of the problem being played. Each of the eight different record types are discussed in the paragraphs that follow.

Record Type No. 1

This type record is entered into the program immediately after a type 17 data card has been read during execution of Subroutine TABLES. Each record contains nine data values for each Red battalion being played in the scenario. The number of records entered is controlled by the value of NTBN entered on the type 17 data card. Table 3-1 contains the parameter name, format, units, and description of the nine data values contained on each record of this type.

Record Type No. 2

This type record is entered into the program immediately after the required number of type No. 1 records has been read from Logical Unit No. 3. The number of records to be read is specified by the value of NITGTS as entered on the type 17 data card. Each record of this type contains nine data values for each individual Red target element being played. Table 3-2 contains the parameter name, format, units, and description of the nine data values contained in each record of this type.

TABLE 3-1. Logical Unit No. 3 Red Battalion Input (Subroutine TABLES).

Parameter	Format	Units	Definition
SURVBN(1,I)	F8.2		ID no. of i th Red battalion
SURVBN(9,I)	F8.2		Total no. of personnel in i th Red battalion
SURVBN(10,I)	F8.2		Total no. of tanks in i th Red battalion
SURVBN(11,I)	F8.2		Total no. of APCs in i th Red battalion
SURVBN(12,I)	F8.2		Total no. of trucks in i th Red battalion
SURVBN(13,I)	F8.2		Total no. of artillery tubes in ith Red battalion
SURVBN(14,I)	F8.2		Total no. of radars in i th Red battalion
SURVBN(15,I)	F8.2		Total no. of missile launchers in ith Red battalion
SURVBN(16,I)	F8.2		Total no. of companies in i th Red battalion

NOTE: The number of records of this type that is read from Logical Unit No. 3 is determined by the value of NTBN entered on punched card type 17. The information is entered immediately after card type 17 has been entered into the program.

Record Type No. 3

This type record contains 53 data points for targets that are not part of a fire plan mission. The reading of this type record, as well as the number of records, is controlled in Subroutine RTAPE which is called many times during program execution. Table 3-3 contains information on the 53 data points appearing in this type record. Table 3-4 presents a breakdown of the target identification number (data point no. 1) and Table 3-5 presents a breakdown of the target/mission code (data point no. 3).

TABLE 3-2. Logical Unit No. 3 Individual Red Target Element Input (Subroutine TABLES).

Parameter	Format	Units	Definition
SURVNA(1,I)	F10.3		ID no. of i th individual Red target
SURVNA(9,I)	F8.2		Total no. of personnel in i th Red target
SURVNA(10,I)	F8.2		Total no. of tanks in i th Red target
SURVNA(11,I)	F8.2		Total no. of APCs in i th Red target
SURVNA(12,I)	F8.2		Total no. of trucks in i th Red target
SURVNA(13,I)	F8.2		Total no. of artillery tubes in ith Red target
SURVNA(14,I)	F8.2	Man tale App	Total no. of radars in i th Red target
SURVNA(15,I)	F8.2		Total no. of missile launchers in i th Red target
SURVNA(16,I)	F8.2		Total no. of next lower level subunits in i th Red target

NOTE: The number of records of this type that is read from Logical Unit No. 3 is determined by the value of NITGTS entered on punched card type 17. The records are entered immediately after the Red battalion records have been entered from Logical Unit No. 3 (see Table 3-1).

TABLE 3-3. Logical Unit No. 3 Input Records from Subroutine RTAPE (Targets Not in Fire Plans).

Data Pt.	Parameter	Format	Units	Definition
1	TAR(1)	F10.3		Target identification number (see Table 3-4 for explanation)
2	TAR(2)	F4.0	kilometers	Target distance from FEBA
3	TAR(3)	F4.0		Target identification code (<12. or >17. and <24.) (See Table 3-5 for explanation)
4	TAR(4)	F4.0		FDC number to which target acquisition is reported (= 1., Division; = 2., Corps; =3.→ 16., battalion)
5	TAR(5)	F4.0		Processing priority code (= 1. for fire missions)
6	TAR(6)	F7.2	kilometers	x - coordinate of target
7	TAR(7)	F7.2	kilometers	y = coordinate of target
8	TAR(8)	F5.0	meters	Target location error (CPE)
9	TAR(9)	F3.0		Estimated target posture
10	TAR(10)	F5.1		Estimated fractional portion of target in open environment
11	TAR(11)	F5.1		Estimated fractional portion of target in wooded environment
12	TAR(12)	F5.1	ANS 1000 1000	Estimated fractional portion of target in town environment
13	TAR(13)	F5.1		Estimated fractional portion of target in grassy environment
14	TAR(14)	F5.0	meters	Estimated target radius
15	TAR(15)	F6.0	minutes	Estimated arrival time at sensed position
16	TAR(16)	F6.0	minutes	Estimated departure time from sensed position

TABLE 3-3. Logical Unit No. 3 Input Records from Subroutine RTAPE (Targets Not in Fire Plans)--Contd.

Data Pt.	Parameter	Format	Units	Definition
17	TAR(17)	F7.2		Estimated military worth of target
18	TAR(18)	F3.0		Actual posture of target
19	TAR(19)	F5.1		Actual fractional portion of target in open environment
20	TAR(20)	F5.1		Actual fractional portion of target in wooded environment
21	TAR(21)	F5.1		Actual fractional portion of target in town environment
22	TAR(22)	F5.1		Actual fractional portion of target in grassy environment
23	ALF2	A6		Alphanumeric description of target
24	ALF3	A4		Alphanumeric description of target
25	TAR(23)	F4.0	meters	Actual target radius
26	TAR(24)	F5.0	minutes	Actual arrival time at sensed position
27	TAR(25)	F5.0	minutes	Actual departure time from sensed position
28	TAR(26)	F7.2		Actual military worth of target
29	TAR(27)	F3.0		Request for additional fire (RFAF) flag (set in program)
30	TAR(28)	F4.0		FDC number that processes fire mission
31	TAR(29)	F3.0		Leave blank; used in program to keep track of fractional portion of percent damage

TABLE 3-3. Logical Unit No. 3 Input Records from Subroutine RTAPE (Targets Not in Fire Plans)--Contd.

Data Pt.	Parameter	Format	Units	Definition
32	TAR(30)	F4.0		Original number of personnel in the target
33	TAR(31)	F4.0		Original number of tanks in the target
34	TAR(32)	F4.0		Original number of APCs in the target
35	TAR(33)	F4.0		Original number of trucks in the target
36	TAR(34)	F4.0		Original number of artillery tubes in the target
37	TAR(35)	F4.0		Original number of radars in the target
3 8	TAR(36)	F4.0		Original number of missile launchers in the target
39	TAR(37)	F7.3		Target movement code (= 0., stationary; = 1., moving; = 100., stationary CLGP target; = any other, view time for moving CLGP target)
40	TAR(38)	F4.0		Target identification index of enemy unit (corresponds to target's subscript in SURVNA array)
41	TAR(39)	F4.0		FDC no. to be charged process time of mission (left blank and set in program)
42	TAR(40)	F4.0		Indicates which Blue battalions have been checked in massing fire at Division against this target (left blank and set in program)

TABLE 3-3. Logical Unit No. 3 Input Records from Subroutine RTAPE (Targets Not in Fire Plans)--Concld.

Data Pt.	Parameter	Format	Units	Definition
43	TAR(41)	F4.0		Indicates Blue battalions that have been checked at Group in massing fire against this target (left blank and set in program)
44	TAR(42)	F3.0		Flag to indicate TOT mission (left blank and set in program)
45	TAR(43)	F6.2		Estimated military worth for CLGP target
46	TAR(44)	F4.2		Fractional survivors of person- nel in target at acquisition time due to non-artillery fire
47	TAR(45)	F4.2		Fractional survivors of tanks in target at acquisition time due to non-artillery fire
48	TAR(46)	F4.2		Fractional survivors of APCs in target at acquisition time due to non-artillery fire
49	TAR(47)	F4.2		Fractional survivors of trucks in target at acquisition time due to non-artillery fire
50	TAR(48)	F4.2		Fractional survivors of artil- lery tubes in target at acquis- ition time due to non-artillery fire
51	TAR(49)	F4.2		Fractional survivors of radars in target at acquisition time due to non-artillery fire
52	TAR(50)	F4.2		Fractional survivors of missile launchers in target at acquisition time due to non-artillery fire
53	ALF1	A6		Alphanumeric description of target acquisition method

TABLE 3-4. Target Identification Number Breakdown (Data Point No. 1).

TARGET ID						
<u>xx xxx</u> · x	X X	<pre>- Identifies a portion of a company: 1 = Co. Hq.; 2, 3, n = 1st, 2nd (n-1)th platoon up to n < 9</pre>				
		Identifies which company, for whole company & portion of company targets.				
	-	<pre>Identifies tgt size: 1 = whole Bn; 2 - whole company (or battery); 3 = Co., C.O. Hq., or platoon; 4 = service element. For a service element the last two digits indicate which element.</pre>				
		- Identifies a numbered enemy Bn.				
	1	 For targets which are part of a fire plan; this identifies which plan. 				
EXAMPLES:						
37.100	-	The entire 37th Red Bn.				
37.230	-	The 3rd company of the 37th Bn.				
2037.210	-	The 1st company of the 37th Bn. on fire plan No. 2				
37.314	-	The 3rd platoon of the 1st company of the 37th Bn.				
37.311	-	The Co. Hq. of the 1st company of the 37th Bn.				
37.312	-	The 1st platoon of the 1st company of the 37th Bn.				
37.405	-	The 5th service element of the 37th Bn.				
37.401	-	Bn. Hq. of the 37th Bn. (1st service element is always Hq.)				
37.412	_	12th service element of the 37th Bn.				

TABLE 3-5. Target/Mission Code Breakout (Data Point No. 3).

Non-fire plan Code No.	Fire plan Code No.	Type of target/mission
1 2 3 4 5	101 102 103 104 105	Artillery units Mortar units Antiaircraft artillery units Antitank units Missile and rocket units
6 7 8 9 10	106 107 108 109 110	APC units Tank units Command posts Observation posts Assembly area units
11 12 13 14 15	111 112 N/A N/A N/A	Engineer units Service elements MET message Survey message ATI message
16 17 18 19 20	N/A 117 118 119 120	Fire plan message Infantry units Harassment and interdiction mission Illumination mission Preparatory fire mission
21 22 23 24	121 122 123 124	Counter-preparatory fire mission Smoke mission Final protective fire mission Barrier mission

Record Type No. 4

This type record is another one of the six possible types entered during execution of Subroutine RTAPE. It is used to enter data for a MET message mission to the Blue force. The type of data and associated information concerning the data are presented in Table 3-6.

Record Type No. 5

The third type of record that may be entered during execution of Subroutine RTAPE contains data for a survey processing mission to be accomplished by the Blue force. Table 3-7 contains the type of data and associated information that appeared on a type No. 5 record.

TABLE 3-6. Logical Unit No. 3 Input Records from Subroutine RTAPE (MET Message Mission).

Data Pt.	Parameter	Format	Units	Definition
1	TAR(1)	F10.3	65 Ms No.	MET identification number
2	TAR(2)	F4.0		Not used; left blank
3	TAR(3)	F4.0		MET message mission code (= 13.)
4	TAR(4)	F4.0	, mar con con	FDC that receives MET message
5	TAR(5)	F4.0		Processing priority code (= 2., MET message)
6	TAR(6)	F7.2		Not used; left blank
7	TAR(7)	F7.2		Not used; left blank
8	TAR(8)	F5.0		Not used; left blank
.9	TAR(9)	F3.0		Not used; left blank
10	TAR(10)	F5.1		Not used; left blank
11	TAR(11)	F5.1		Not used; left blank
12	TAR(12)	F5.1		Not used; left blank
13	TAR(13)	F5.1		Not used; left blank
14	TAR(14)	F5.0		Not used; left blank
15	TAR(15)	F6.0	minutes	Arrival time of message at FDC
16	TAR(16)	F6.0	minutes	Time that MET data were taken
17	TAR(17)	F7.2		Not used; left blank
18	TAR(18)	F3.0		Not used; left blank
19	TAR(19)	F5.1		Not used; left blank
20	TAR(20)	F5.1		Not used; left blank
21	TAR(21)	F5.1		Not used; left blank

TABLE 3-6. Logical Unit No. 3 Input Records from Subroutine RTAPE (MET Message Mission)--Contd.

Data Pt.	Parameter	Format	Units	Definition
22	TAR(22)	F5.1		Not used; left blank
23	ALF2	A6		Not used; left blank
24	ALF2	A4		Not used; left blank
25	TAR(23)	F4.0		Not used; left blank
26	TAR(24)	F5.0		Not used; left blank
27	TAR(25)	F5.0		Not used; left blank
28	TAR(26)	F7.2		Not used; left blank
29	TAR(27)	F3.0		Not used; left blank
30	TAR(28)	F4.0		Number of FDC that processes the MET message mission
31	TAR(29)	F3.0		Not used; left blank
* 32	TAR(30)	F4.0		Not used; left blank

*NOTE: Data points 33 through 53 of this type record are also not used, and are therefore left blank.

TABLE 3-7. Logical Unit No. 3 Input Records from Subroutine RTAPE (Survey Processing Mission).

Data Pt.	Parameter	Format	Units	Definition
1	TAR(1)	F10.3		Survey request identification number
2	TAR(2)	F4.0		Not used; left blank
3	TAR(3)	F4.0		Survey processing mission code number (= 14.)
4	TAR(4)	F4.0		Number of FDC that receives survey processing request
5	TAR(5)	F4.0		Priority processing number (= 3., survey processing request)
6	TAR(6)	F7.2		Not used; left blank
7	TAR(7)	F7.2		Not used; left blank
8	TAR(8)	F5.0		Not used; left blank
9	TAR(9)	F3.0		Not used; left blank
10	TAR(10)	F5.1		Not used; left blank
11	TAR(11)	F5.1		Not used; left blank
12	TAR(12)	F5.1		Not used; left blank
13	TAR(13)	F5.1		Not used; left blank
14	TAR(14)	F5.0		Not used; left blank
15	TAR(15)	F6.0	minutes	Arrival time of survey request at FDC
16	TAR(16)	F6.0	minutes	Time when survey processing request must be finished
17	TAR(17)	F7.2		Not used; left blank
18	TAR(18)	F3.0		Not used; left blank
19	TAR(19)	F5.1		Not used; left blank

TABLE 3-7. Logical Unit No. 3 Input Records from Subroutine RTAPE (Survey Processing Mission)--Contd.

Data Pt.	Parameter	Format	Units	Definition
20	TAR(20)	F5.1		Not used; left blank
21	TAR(21)	F5.1		Not used; left blank
22	TAR(22)	F5.1		Not used; left blank
23	ALF2	A6		Not used; left blank
24	ALF3	A4		Not used; left blank
25	TAR(23)	F4.0		Not used; left blank
26	TAR(24)	F5.0		Not used; left blank
27	TAR(25)	F5.0		Not used; left blank
28	TAR(26)	F7.2		Not used; left blank
29	TAR(27)	F3.0		Not used; left blank
30	TAR(28)	F4.0		Number of FDC that processes survey request (may be changed in the program)
31	TAR(29)	F3.0		Not used; left blank
* 32	TAR(30)	F4.0		Not used; left blank

 $^{{}^{\}star}{}$ NOTE: Data points 33 through 53 of this type record are also not used, and therefore left blank.

Record Type No. 6

The fourth type of record possible to be entered during execution of Subroutine RTAPE is for an Artillery Target Intelligence (ATI) mission. This type record contains essentially the same information as a type No. 3 record, except that it is identified as an ATI mission (TAR(3) = 15.) and the processing priority code, TAR(5), is set equal to 3. instead of 1., which is used for a fire mission. Table 3-8 contains the type of data and associated information for an ATI mission record.

Record Type No. 7

The fifth type of record that may be entered during execution of Subroutine RTAPE is a Fire Plan Header Record. Whenever this type record is entered into the program, it is immediately followed by a specified number of type No. 8 records. The number of fire plan target records to be entered is controlled by the value of the sixth data point appearing on the type No. 7 record. Table 3-9 contains the type of data and associated information that are entered whenever a Fire Plan Header Record is called for.

Record Type No. 8

The sixth and last type of record that can be entered from Logical Unit No. 3 is the Fire Plan Target Record. As stated previously, the number of records of this type that are entered at any one time depends upon the presence of a Fire Plan Header Record and the value of the sixth data point appearing on that record. The type of data and the necessary associated information, for each data point contained on this type record, is presented in Table 3-10.

CARD READER INPUT

The AFSM program enters data via punched cards during execution of six different subroutines of the program, all of which are called sequentially from the MAIN Routine. The purpose of the punched card inputs entered during execution of each subroutine follows.

Subroutine TABLES Input Cards

This subroutine is used to enter miscellaneous program flags and parameters used to select various options available to the user. It is also used to enter data records from Logical Unit No. 3 after Data Card Type 17 has been processed. The input parameters required on each type

TABLE 3-8. Logical Unit No. 3 Input Records from Subroutine RTAPE (Artillery Target Intelligence Mission).

Data Pt.	Parameter	Format	Units	Definition
1	TAR(1)	F10.3	40 40 40	Target identification number (see Table 3-4 for explanation)
2	TAR(2)	F4.0	kilometers	Target distance from FEBA
3	TAR(3)	F4.0		Mission identification code (= 15.)
4	TAR(4)	F4.0		FDC number to which target acquisition is reported (= 1., Division; = 2., Group; = 3. to 16. battalion)
5	TAR(5)	F4.0		Processing priority code (= 3. for ATI missions)
6	TAR(6)	F7.2	kilometers	x - coordinate of target
7	TAR(7)	F7.2	kilometers	y - coordinate of target
8	TAR(8)	F5.0	meters	Target location error (CPE)
9	TAR(9)	F3.0		Estimated target posture
10	TAR(10)	F5.1		Estimated fractional portion of target in open environment
11	TAR(11)	F5.1		Estimated fractional portion of target in wooded environment
12	TAR(12)	F5.1		Estimated fractional portion of target in town environment
13	TAR(13)	F5.1		Estimated fractional portion of target in grassy environment
14	TAR(14)	F5.0	meters	Estimated target radius
15	TAR(15)	F6.0	minutes	Estimated arrival time at sensed position
16	TAR(16)	F6.0	minutes	Estimated departure time from sensed position

TABLE 3-8. Logical Unit No. 3 Input Records from Subroutine RTAPE (Artillery Target Intelligence Mission)--Contd.

Data Pt.	Parameter	Format	Units	Definition
17	TAR(17)	F7.2		Estimated military worth of target
18	TAR(18)	F3.0		Actual posture of target
19	TAR(19)	F5.1		Actual fractional portion of target in open environment
20	TAR(20)	F5.1	***	Actual fractional portion of target in wooded environment
21	TAR(21)	F5.1		Actual fractional portion of target in town environment
22	TAR(22)	F5.1		Actual fractional portion of target in grassy environment
23	ALF2	A6		Alphanumeric description of target
24	ALF3	A4		Alphanumeric description of target
25	TAR(23)	F4.0	meters	Actual target radius
26	TAR(24)	F5.0	minutes	Actual arrival time at sensed position
27	TAR(25)	F5.0	minutes	Actual departure time from sensed position
28	TAR(26)	F7.2	64 M M	Actual military worth of target
29	TAR(27)	F3.0		Request for additional fire (RFAF) flag
30	TAR(28)	F4.0		FDC number that processes fire mission
31	TAR(29)	F3.0		Leave blank, used in program to keep track of fractional portion of damage

TABLE 3-8. Logical Unit No. 3 Input Records from Subroutine RTAPE (Artillery Target Intelligence Mission)--Contd.

Data Pt.	Parameter	Format	Units	Definition
32	TAR(30)	F4.0		Original number of personnel in the target
33	TAR(31)	F4.0		Original number of tanks in the target
34	TAR(32)	F4.0		Original number of APCs in the target
35	TAR(33)	F4.0		Original number of trucks in the target
36	TAR(34)	F4.0		Original number of artillery tubes in the target
37	TAR(35)	F4.0	No. 64 St.	Original number of radars in the target
38	TAR(36)	F4.0		Original number of missile launchers in the target
39	TAR(37)	F7.3		Target movement code (= 0., stationary; = 1., moving; = 100., stationary CLGP tgt; any other, view time for moving CLGP target)
40	TAR(38)	F4.0		Target identification index of Red battalion
41	TAR(39)	F4.0		FDC no. to be charged process time of mission (left blank and set in program)
42	TAR(40)	F4.0		Same as defined in Table 3-3, but not applicable if target comes off Logical Unit No. 3 as an ATI mission, as opposed to being converted to ATI mission in the program

TABLE 3-8. Logical Unit No. 3 Input Records from Subroutine RTAPE (Artillery Target Intelligence Mission)--Concld.

D. 4 - D1	Б		l	
Data Pt.	Parameter	Format	Units	Definition
43	TAR(41)	F4.0		Same as defined in Table 3-3, but not applicable if target comes off Logical Unit No. 3 as an ATI mission, as opposed to being converted to ATI mission in the program
44	TAR(42)	F3.0		Not used; left blank
45	TAR(43)	F6.2		Estimated military worth for CLGP target
46	TAR(44)	F4.2		Fractional survivors of person- nel in target at acquisition time due to non-artillery fire
47	TAR(45)	F4.2		Fractional survivors of tanks in target at acquisition time due to non-artillery fire
48	TAR(46)	F4.2		Fractional survivors of APCs in target at acquisition time due to non-artillery fire
49	TAR (49)	F4.2		Fractional survivors of trucks in target at acquisition time due to non-artillery fire
50	TAR(48)	F4.2	₩ ₩ ₩	Fractional survivors of artil- lery tube in target at acquisi- tion time due to non-artillery fire
51	TAR(49)	F4.2		Fractional survivors of radars in target at acquisition time due to non-artillery fire
52	TAR(50)	F4.2		Fractional survivors of missile launchers in target at acquisition time due to non-artillery fire
53				Alphanumeric description of tar- get acquisition method

TABLE 3-9. Logical Unit No. 3 Input Records from Subroutine RTAPE (Fire Plan Header Record).

Data Pt.	Parameter	Format	Units	Definition
1	TAR(1)	F10.3		Fire plan identification number (1000, 2000, 3000, etc)
2	TAR(2)	F4.0		Not used; left blank
3	TAR(3)	F4.0		Mission identification code (= 16., fire plan mission)
4	TAR(4)	F4.0		Number of FDC that receives fire plan request
5	TAR(5)	F4.0		Priority processing code (= 4 for fire plan request)
* 6	TAR(6)	F7.2		Number of targets in the fire plan
7	TAR(7)	F7.2		Flag to indicate status of fire plan (= 0.0, processing not completed; = 1.0, processing completed)
8	TAR(8)	F5.0		Not used; left blank
9	TAR(9)	F3.0		Not used; left blank
10	TAR(10)	F5.1		Not used; left blank
11	TAR(11)	F5.1		Not used; left blank
12	TAR(12)	F5.1		Not used; left blank
13	TAR(13)	F5.1		Not used; left blank
14	TAR(14)	F5.0		Not used; left blank
15	TAR(15)	F6.0	minutes	Arrival time of fire plan request at FDC

^{*}NOTE: The number of record types identified in Table 3-10 is specified by the number of targets in the fire plan; l record per target each time a fire plan header card is entered.

TABLE 3-9. Logical Unit No. 3 Input Records from Subroutine RTAPE (Fire Plan Header Record)--Contd.

Data Pt.	Parameter	Format	Units	Definition
16	TAR(16)	F6.0	minutes	Time that fire plan processing must be completed
17	TAR(17)	F7.2		Number of targets assigned to first battalion selected
18	TAR(18)	F3.0		Number of targets assigned to second battalion selected
19	TAR(19)	F5.1		Number of targets assigned to third battalion selected
20	TAR(20)	F5.1		Number of targets assigned to fourth battalion selected
21	TAR(21)	F5.1		Number of targets assigned to fifth battalion selected
2.2	TAR(22)	F5.1		Number of targets assigned to sixth battalion selected
23	ALF2	A6		Not used; left blank
24	ALF3	A4		Not used; left blank
25	TAR(23)	F4.0		Number of targets assigned to seventh battalion selected
26	TAR (24)	F5.0	Miles Sales	Number of targets assigned to eighth battalion selected
27	TAR(25)	F5.0		Number of targets assigned to ninth battalion selected
28	TAR(26)	F7.2		Number of targets assigned to tenth battalion selected
29	TAR(27)	F3.0		Number of targets assigned to eleventh battalion selected

TABLE 3-9. Logical Unit No. 3 Input Records from Subroutine RTAPE (Fire Plan Header Record)--Concld.

Data Pt.	Parameter	Format	Units	Definition
30	TAR(28)	F4.0		Number of targets assigned to twelfth battalion selected
31	TAR(29)	F3.0		Number of targets assigned to thirteenth battalion selected
* 32	TAR(30)	F4.0		Number of targets assigned to fourteenth battalion selected

*NOTE: Data points 33 through 53 of this type record are not used, and therefore left blank.

of data card, entered during execution of this subroutine, are contained on Data Card Type 1 through Data Card Type 23, respectively.

Subroutine SYSTEM Input Cards

Data associated with each artillery weapon system being played in the game are entered during execution of this subroutine. The input parameters required on each data card are illustrated on Data Card Types 24 through 26e. The program ignores data entered for systems that are not keyed in by a "1" on card type 25a or 25b.

Subroutine ROUND Input Cards

Data Card Types 27 through 40 are entered into the program during execution of this subroutine. Data for rounds not associated with the systems selected in Subroutine SYSTEM are entered but ignored by the program. Table 3-11 lists the type of data that appear on additional type 31 cards when the round in question is an HE round.

Subroutine FUFDC Input Cards

This subroutine is used to enter movement schedules and site coordinates for Blue FDCs and Blue batteries being played in the game. In addition, it is used to enter "Rounds Allowed" data for the various

environments of the game, scenario boundaries when applicable, as well as FEBA trace data. Data Card Types 41 through 56 are used to illustrate the parameters required for proper execution of this subroutine.

Subroutine WPMIX Input Cards

Data Card Types 57 through 82 are read during execution of this subroutine. The cards contain values for tactical assignments of Blue battalions, times required for various Blue FDC functions, Blue battalion ordering, and tube wear and distance traveled between various types of failures.

Subroutine REDIN Input Cards

The last subroutine used to enter input data via punched cards is this one. Data Card Types 83 through 87 are used to enter data for Red battalions, Red batteries, as well as movement and site schedules for the Red batteries.

DATA DECK SETUP

A typical AFSM punched card data deck setup is depicted in Figure 3-1. The figure is used to illustrate the various types of cards that are required when all input options of the program are exercised. As such, it serves only to illustrate a possible, but not necessarily a realistic, input data deck.

TABLE 3-10. Logical Unit No. 3 Input Records from Subroutine RTAPE (Fire Plan Target).

Data Pt.	Parameter	Format	Units	Definition
1	TFP(1,J)	F10.3		Identification number of j th target in fire plan
2	TFP(2,J)	F4.0	kilometers	j th target distance from FEBA
3	TFP(3,J)	F4.0		j th target identification code (\geq 101. and \leq 112. or \geq 117. and \leq 124.)
4	TFP(4,J)	F4.0		FDC number to which j th target acquisition is reported (= 1., Division; = 2., Corps; = 3. to 16., battalion)
5	TFP(5,J)	F4.0	to to 40	Processing priority code (= 4., fire plan)
6	TFP(6,J)	F7.2	kilometers	x - coordinate of j th target
7	TFP(7,J)	F7.2	kilometers	y - coordinate of j th target
8	TFP(8,J)	F5.0	meters	j th target location error (CPE)
9	TFP(9,J)	F3.0		Estimated posture of j th target
10	TFP(10,J)	F5.1		Estimated fractional portion of jth target in open environment
11	TFP(11,J)	F5.1		Estimated fractional portion of jth target in wooded environmen
12	TFP(12,J)	F5.1		Estimated fractional portion of jth target in town environment
13	TFP(13,J)	F5.1		Estimated fractional portion of jth target in grassy environmen
14	TFP(14,J)	F5.0	meters	Estimated radius of j th target
15	TFP(15,J)	F6.0	minutes	Estimated arrival time of j th target at sensed position

TABLE 3-10. Logical Unit No. 3 Input Records from Subroutine RTAPE (Fire Plan Target)--Contd.

Data Pt.	Parameter	Format	Units	Definition
16	TFP(16,J)	F6.0	minutes	Estimated departure time of j th target from sensed position
17	TFP(17,J)	F7.2		Estimated military worth of j th target
18	TFP(18,J)	F3.0		Actual posture of j th target
19	TFP(19,J)	F5.1		Actual fractional portion of j th target in open environment
20	TFP(20,J)	F5.1		Actual fractional portion of j th target in wooded environment
21	TFP(21,J)	F5.1		Actual fractional portion of j th target in town environment
22	TFP(22,J)	F5.1		Actual fractional portion of j th target in grassy environment
23	TFP(23,J)	A6	meters	Actual radius of j th target
24	TFP(24,J)	A4	minutes	Actual arrival time of j th target at sensed position
25	TFP(25,J)	F4.0	minutes	Actual departure time of j th target from sensed position
26	TFP(26,J)	F5.0		Actual military worth of j th target
27	TFP(27,J)	F5.0		Request for additional fire (RFAF) flag against j th target
28	TFP(28,J)	F7.2		FDC number that processes fire mission against j th target
29	TFP(29,J)	F3.0		Number of 155-mm equivalent volleys to be fired at this fire plan target
30	TFP(30,J)	F4.0		Original number of personnel in jth target

TABLE 3-10. Logical Unit No. 3 Input Records from Subroutine RTAPE (Fire Plan Target)--Concld.

Data Pt.	Parameter	Format	Units	Definition
31	TFP(31,J)	F3.0		Original number of tanks in j th target
32	TFP(32,J)	F4.0		Original number of APCs in j th target
33	TFP(33,J)	F4.0		Original number of trucks in jth target
34	TFP(34,J)	F4.0		Original number of artillery tubes in j th target
35	TFP(35,J)	F4.0		Original number of radars in jth target
36	TFP(36,J)	F4.0		Original number of missile launchers in j th target
37	TFP(37,J)	F4.0		j th target movement code (= 0., stationary; = 1., moving)
38	TFP(38,J)	F4.0		j th target identification index of enemy battalion
39	TFP(39,J)	F7.3		FDC no. to be charged process time of mission (left blank and set in program)
40	TFP(40,J)	F4.0		Not applicable
41	TFP(41,J)	F4.0		Not applicable
42	TFP(42,J)	F4.0		Not applicable
43	TFP(43,J)	F4.0		Not applicable

NOTE: The number of Table 3-10 type records for a fire plan is determined by the value of TAR(6) as entered from a Table 3-9 type record.

											Card: 1
Card: 1	A B C D E F G H I J K L M N O P E P C 1.2 314 5 617 6 3 100 1123 1245 5 5 12 12 12 12 12 12 12 12 12 12 12 12 12	Description				Alphanumeric information identifying type	only.				NOTE: This must be the first card of the input data deck. It may be a blank card, if so desired, but it must precede all other cards of the deck.
	F G	Columns	1-5	01-9	11-15	•	•	•	71-75	76-80	
	D E 18/19 20/21/22 23 24/25	Format	A5	A5	A5	•	•	•	A5	A5	
NOI.	C Sport rates to 15 to 17	Units	1	i i	!	•	•	•	-	-	
MIX IDENTIFICATION	A B	Parameter	CXID(1)	CXID(2)	cxID(3)	•	•	•	CXID(15)	CXID(16)	
Ι×	1										

			et t				,		Card: 2
Card: 2	C D E F G G STATE	Description	Additional time required to process a time-on-target (TOI) mission	Suppression subroutines control flag (=1.0, call subroutines; =0.0, bypass subroutines)	Duration of suppression after cessation of counterbattery fire	Blue battery defeat level	Flag for Blue personnel loss consideration (= 0.0, personnel losses not a limiting factor; = 1.0, personnel losses are recorded and may result in defeat of battery)	Flag to indicate scenario being played; i.e., scenario identification number	Flag to indicate that CLGP round is allowed (= 0.0, CLGP rounds allowed; = 1.0, CLGP rounds not allowed)
	D E	Columns	1- 8	9-16	17-24	25-32	33-40	41-48	49-56
	ts x m				-				
	C 18 1 8 20 24 22 23 24	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2
L FLAGS	A B 1.2.3 4.5.6 7.0,9 pp.11.12 pl.13 14 15 17 18	Units	minutes	-	minutes	1	1		
PROGRAM CONTROL	A 1234567	Parameter	МТТОТ	SPRKEY	SPRET	BLDFLV	PERSFG	SCENAR	CLGP
8	1	ΟI	⋖	മ	ပ		ш	LL.	· ·

				Card: 3
Card: 3	an en		ame	
	सारा प्रसार प्राप्त कर के सम्बद्ध के स्वापन कर्षा है	Description	Number of Red batteries in the game	
	12 12 12 10 10 12 12 13 14	Columns	1-5	
	7.52 2.72 23.742.1	Format	15	
SATTERIES	A	Units		
NUMBER OF RED BATTERIES	A 1 2 3 4 5 6 7 1	Parameter	NREDBT	
NU		ID	V	

				•						Card: 4
Card: 4	C D E F G H 19 20 alpa as apparas appa	Description	Game start time	Time of first printout	Game end time	Time that initial MET data were taken	Maximum number of round types allowed per battery per fire plan in SAVRD, IDRDSV, RDSVK, RDSV, TGSV, and SVMW arrays	Number of estimated Red postures	Maximum number of fire plans that can be entered from target tape based on current array dimensions. There may be fewer than this number of fire plans on the tape	Maximum number of fire plans allowable in SMFP and FIRPL arrays
	D 27/28 29 30/31 32/334	Columns	1-8	91-6	17-24	25-32	33-37	38-42	43-47	48-52
NOI	C 10 19 20 21 22 23 24 25 21	Format	F8.2	F8.2	F8.2	F8.2	15	15	15	15
IL INFORMAT	A B	Units	minutes	hours	minutes	minutes	1	-	!	!
SCENARIO GENERAL INFORMATION	A 1 2 3 4 5 6 7 1	Parameter	TZRO	TSTART	TMX	TMETZO	NRFP	NESTP	NPLNIN	NPLNS
SC		ID	А	В	ပ	۵	Ш	ഥ	G	Ξ

										Card: 5
Card: 5	A B C D E F G 12 2 3 4 3 6 7 1 2 3 4 3 6 7 1 2 3 4 3 6 7 2 3 4 3 6 7 2 3 4 3 6 7 2 3 5 5 3 5 3 5 5 5 5 6 5 5 6 5 5 6 5 5 6 5 5 6 5 5 6 5 6	Description	Maximum number of missions in QUE array	Maximum number of missions in PREQ array	Maximum number of Red u nits allowed in DAMAGE array	Maximum number of targets (tape input) per fire plan in TFP array	Maximum number of additio nal battery fire plan missions (machine-genera ted) in TTFP array	Maximum number of tape input and machine-generated missions per fire plan in FP array	Maximum number of missions per battery per fire plan in RDSV, TGSV, and SVMW arrays	
	F G	Columns	1-5	01-9	11-15	16-20	21-25	26-30	31-35	
	D E	Format	15	. I5	15	15	15		I5	
ONS DATA	B C	Units	-	i i i				 		
FIRE PLAN MISSIONS DATA	A 1 2 3 4 5 6 7 1	Parameter	MAXQ	MAXPQ	MAXND	MAXTFP	MXTTFP	MAXFP	MXBYPN	
FIF		ID	A	8	ပ	۵	LLJ	ഥ	r.	

CLGPSCALE FACTORS A B C Card: 6 Car							
A B C C A B C C A B C C A B C C A B C C A B C C A B C C A B C C A B C C A B C C A B C C A B C C A B C C C A B C C C C C C C C C C C C C C C C C C							Card: 6
A B C C A B C C A B C C A B C C A B C C A B C C A B C C A B C C A B C C A B C C A B C C A B C C A B C C C A B C C C C C C C C C C C C C C C C C C	1 1	Zeletes uper medien ratis iz iz iz iz iz iz i i i i i i i i	ion	number of Red tanks	number of Red APCs	number of Red trucks	
CLG CLG CLG		क्रम्मा मा मुख्या स्ट्रीय सर्वेष्ट राष्ट्रिक स्ट्रीय छ छोत्र छ इति छ छोत्र छ छोत्र छ छोत्र छ छोत्र छ	Descript	Scale factor for computing killed by CLGP rounds	Scale factor for computing killed by CLGP rounds	Scale factor for computing killed by CLGP rounds	
CLG CLG CLG		स्त्राच्या सम्बद्धाः स्रोतसम्बद्धाः	Columns	1-6	7-12	13-18	
CLG CLG CLG		18 20 22 22 12 05 81	Format	F6.1	F6.1	F6.1	
CLG CLG CLG	rors	B C	Units		! !	t I	
C B B ID	3P SCALE FACT	1 2 3 4 5 6 7 U	Parameter	CLGPSF(1)	CLGPSF(2)	CLGPSF(3)	
	CL6		ID	A	В	ပ	

relibeleie			A Good Street Co. N. A.	A CAMPAGNA STATE OF THE STATE O					Card: 7
Card: 7	A B C D E F F 12 3 4 5 6 7 8 3 pm 1 q13 14 1 q15 14 1 q15 14 15 15 17 25 2 4 5 5 6 5 15 25 5 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Description	Minimum time required to fire a CLGP fire mission	Minimum time required for Red force to acquire a Blue battery as a target	No longer used in program	Red counterbattery target memory time (If a Blue battery fires a mission from a site within TMT minutes after receiving fire at that site, Red will immediately recognize the source of fire and schedule counterfire)	Time required to get float from Division level	Time required to get float from Group level	
	E F	Columns	9-1	7-12	13-18	19-24	25-30	31-36	
SAM	D 5232222232	Format	F6.1	F6.1	F6.1	F6.1	F6.1	F6.1	
TS IN PROGRA	B C	Units	minutes	minutes	minutes	minutes	hours	hours	
TIME CONSTRAINTS IN	A 1234567	Parameter	TFCLM	ACQMIN	RIFMIN	TMT	TTGF(1)	TTGF(2)	
TI		ID	V	8	ပ	۵	ш	ш	

		T										1	Card:	8	
Card: 8	Relation of the residence of the relation of t	- 1	Identification number of first Blue weapon system	Identification number of second Blue weapon system	Identification number of third Blue weapon system	Identification number of fourth Blue weapon system	Identification number of fifth Blue weapon system	Identification number of sixth Blue weapon system	Identification number of seventh Blue weapon system	Identification number of eighth Blue weapon system	Identification number of ninth Blue weapon system	Identification number of tenth Blue weapon system	Identification number of eleventh Blue weapon system		
BERS	F \ G	Columns	1-4	6-9	11-14	16-19	21-24	26-29	31-34	36-39	41-44	46-49	51-54		
ATION NUMBERS	10 E V	Format	14	14	14	14	14	14	14	14	14	14	14		
IDENTIFIC	A Selve M C M D	Units	!		1	!	1	-	1	1	. 1	1	1		
WEAPON SYSTEM IDENTIFICAT	A A B	Parameter	IISYST(1)	IISYST(2)	IISYST(3)	IISYST(4)	IISYST(5)	IISYST(6)	IISYST(7)	IISYST(8)	IISYST(9)	IISYST(10)	11SYST(11)		
3		ID	A	В	ပ	۵	Ш	ட	ŋ	工	Н	'n	¥		

						and the state of t			19	5			Ca	rd:	9	
Card: 9	D E K F G H H I J J K L L L L L L L L L L L L L L L L L	ption	Alphanumeric identifier of first column	Alphanumeric identifier of second column	Alphanumeric identifier of third column	Alphanumeric identifier of fourth column	Alphanumeric identifier of fifth column	Alphanumeric identifier of sixth column	Alphanumeric identifier of seventh column	Alphanumeric identifier of eighth column	Alphanumeric identifier of ninth column	Alphanumeric identifier of tenth column	Alphanumeric identifier of eleventh column	Alphanumeric identifier of twelfth column		
Ţ	E F F	Columns	1-4	7-10	13-16	19-22	25-28	31-34	37-40	43-46	49-52	55-58	61-64	67-72		
COPY OUTPUT	2 22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Format	A4	A4	A4	A4	A4	A4	A4	A4	A4	A4	A4	A6		
FOR HARD (A B C C 1 2 3 4 S V V V V V V V V V V V V V V V V V V	Units	!	1	!	1		-	!	!	-	!	-	-		
COLUMN HEADERS FOR HARD COPY	A B	Parameter	COLHDR(1)	COLHDR(2)	COLHDR(3)	COLHDR(4)	COLHDR(5)	COLHDR(6)	COLHDR(7)	COLHDR(8)	COLHDR(9)	COLHDR(10)	COLHDR(11)	COLHDR(12)		
8		ID	А	В	ပ	۵	ш	ட	5	I	Н	ר	×	ب		

				-									Card	10	à	
Card: 10a	C D I S K S S S S S S S S S S S S S S S S S	Description	Alphanumeric identifier of first row of output	Alphanumeric identifier of second row of output	Alphanumeric identifier of third row of output	Alphanumeric identifier of fourth row of output	Alphanumeric identifier of fifth row of output	Alphanumeric identifier of sixth row of output	Alphanumeric identifier of seventh row of output	Alphanumeric identifier of eighth row of output	Alphanumeric identifier of ninth row of output	Alphanumeric identifier of tenth row of output	Alphanumeric identifier of eleventh row of output			
5	27 E	Columns	9-1	8-13	15-20	22-27	29-34	36-41	43-48	50-55	57-62	64-69	71-76			-
COPY OUTP	C D Services of the services or	Format	A6	A6	A6	A6	A6	A6	A6	A6	A6	A6	A6			
FOR HARD	B W (Units	-	-									-			
ROW IDENTIFIERS FOR HARD COPY OUTPUT	A A 1 2 3/4 5 6/	Parameter	ROWHDR(1)	ROWHDR(2).	ROWHDR(3)	ROWHDR(4)	ROWHDR(5)	ROWHDR(6)	ROWHDR(7)	ROWHDR(8)	ROWHDR(9)	ROWHDR(10)	ROWHDR(11)			
ROW		ID	A	Ω	ပ	Q	Ш	Щ	5	Ξ	н	ņ	×			

		T			-		
Card: 10b	123/456/Noshonday National Columns	Alphanumeric identifier of twelfth row of output	Alphanumeric identifier of thirteenth row of output	Alphanumeric identifier of fourteenth row of output	Alphanumeric identifier of fifteenth row of output	Alphanumeric identifier of sixteenth row of output	Card: 10b
	22						
IN E	Columns	1-6	8-13	15-20	22-27	29-34	
M n M E	Format Columns	A6 1-6	A6 8-13	A6 15-20	A6 22-27	A6 29-34	
POR HARD COPY COLPOI	Bundahastrakan						
N M B M C M D M E	Parameter Units Format Columns	. A6		- A6	- A6		

Card: 11a	A B C D E F G H I J J	Description	Number of 122-mm HE rounds Red force will expend in counterbattery fire for ranges ≤ 8 km against a towed battery target	Coefficients for additional 122-mm HE rounds Red force will expend for 8 km < range < 16 km against a towed battery target	Coefficients for additional 122-mm HE rounds.Red force will expend for 8 km < range < 16 km against a towed battery target	Number of 122-mm HE rounds Red force will expend for ranges ≥ 16 km against a towed battery target	Number of 122-mm HE rounds Red force wi ll expend in counterbattery fire for ranges ≤ 8 km against a self-propelled unarmored battery target	Coefficients for additional 122-mm HE rounds Red force will expend for 8 km < range < 16 km against a self-propelled unarmored battery target	Coefficients for additional 122-mm HE rounds Red force will expend for 8 km < range < 16 km against a self-propelled unarmored battery target
	ड अक्टीग उक्त उम्रेस्ट सर्		Number counte towed	Coeffi force a towe	Coeffi force a towe	Number ranges	Number counte self-p	Coeffi force a self	Coeffi force a self
TS	E F	Columns	1-5	6-12	13-19	20-24	25-30	31-37	38-45
OEFFICIENTS	Ω C C2 C2 C2 C2 C45 κ	Format	F5.0	F7.4	F7.5	F5.0	F6.0	F7.4	F8.6
TEM/RANGE CO	B C	Units		kilo- meters-2	kilo- meters-4	!		kilo- meters ⁻²	kilo- meters-4
WEAPON SYSTEM/RANGE	A 1 2 3 4 5 6 7	Parameter	COF122(1,1)	COF122(1,2)	COF122(1,3)	COF122(1,4)	COF122(2,1)	COF122(2,2)	COF122(2,3)
RED		ΩI	A	<u>m</u>	ပ	Ω	ш	ъ.	5

	T				A TABLE STATE OF STATE OF THE S	Londo Ila
Card: 11a	20 1/2 22 2425 25 27 29 29 29 29 29 29 29 29 29 29 29 29 29	Description	Number of 122-mm HE rounds Red force will expend for range ≥ 16 km against a self-propelled unarmored battery target	Number of 122-mm HE rounds Red force will expend in counterbattery fire for ranges ≤ 8 km against a self-propelled armored battery target	Coefficient for additional 122-mm HE rounds Red force will expend for 8 km < range < 16 km against a self-propelled armored battery target	Card: 11a
TS	E F	Columns	46-50	51-55	56-61	
OEFFICIEN	D Ca 21/22 22/425 28	Format	F5.0	F5.0	F6.3	
EM/RANGE C	A B C . 1 s of to 1 s of t	Units	1	ļ	kilo- meters ⁻²	
RED WEAPON SYSTEM/RANGE COEFFICIENTS	A 1 2 3 4 5 6 7 1	Parameter	COF122(2,4)	COF122(3,1)	COF122(3,2)	
RED		ΩI	Ξ	н	٠ ٢	

					Card: 11b
Card: 11b	A B किमा स्विधा अक्टिस मिन्न स्वति सम्बद्ध समित्र सम्बद्ध समित्र	Description	Coefficient for additional 122-mm HE rounds Red force will expend for 8 km < range < 16 km against a self-propelled armored battery target	Number of 122-mm HE rounds Red force will expend for ranges ≥ 16 km against a self-propelled armored battery target	
TS	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	Columns	1-8	9-13	
COEFFICIENTS	e septentia septentia	Format	F8.6	F5.0	
	B B B B B B B B B B B B B B B B B B B	Units	kilo- meters-4		
WEAPON SYSTEM/RANGE	A 1234567	Parameter	COF122(3,3)	COF122(3,4)	
RED		ID	A	В	

						Card: 12
Card: 12	A B C	Description	Number of target environments in scenario (2 \leq NEV \leq 4)	Number of target elements in scenario (≤ 9)	Number of target postures in scenario (NESTP < NPOST < 18) where NESTP is as defined on card 3	
AND POSTURES	म्प्रेस्य अन्य अप्रस्	Columns	1-5	01-9	11-15	
ELEMENTS, AND	14 malandi	Format	51	15	15	
	3 C C	Units		-		
GET ENVIRONMENTS,	A E	Parameter	NEV	NE	NPOST	
TARGET		ID	A	8	ပ	

			<u> </u>					(Card: 13	
Card: 13	C B E F G H II		standing for	prone for j th	crouching for	POST(I,J) = 1.0 for $3 < I < 10$ indicates that element (I-2) is the critical element for targets with posture J	POST(I,J) = 1.0 for $3 < I < 10$ indicates that element (I-2) is the critical element for targets with posture J	POST(I,J) = 1.0 for $3 < I < 10$ indicates that element (I-2) is the critical element for targets with posture J	POST(I,J) = 1.0 for $3 < I < 10$ indicates that element (I-2) is the critical element for targets with posture J	POST(I,J) = 1.0 for $3 < I < 10$ indicates that element (I-2) is the critical element for targets with posture J
	G 2 sa sejss se pafsu sa enjeu na najeu	Description	rned personnel	ned personnel	rned personnel	for 3 < I < 10 the critical				
	· F R 3 8 6 8 1 5 8 5 1 5 5 5 1 5 5 5 1 5 5 5 1 5 5 5 1 5 5 5 1 5 5 5 5 1 5 5 5 5 1 5 5 5 5 1 5 5 5 5 1 5 5 5 5 1 5 5		Fraction of unwarned personnel standing for j th posture	Fraction of unwarned personnel prone for j th posture	Fraction of unwarned personnel crouching for j th posture	ST(I,J) = 1.0 fement $(I-2)$ is th posture J	ST(I,J) = 1.0 fement $(I-2)$ is the posture J	ST(I,J) = 1.0 fement $(I-2)$ is th posture J	POST(I,J) = 1.0 felement $(I-2)$ is with posture J	POST(I,J) = 1.0 1 element (I-2) is with posture J
4	E E	Columns	1-8 Fr	9-16 Fr	17-24 Fr	25-32 PC el	33-40 PC	41-48 PC	49-56 PC	57-64 PC el
DAT/	Q Secretary	t C		<u>6</u>		- i	က် ·	4	4	10
OSTURE	C nessarizas	Format	F8.3	F8.3	F8.3	F8.3	F8.3	F8.3	F8.3	F8.3
ELEMENTS	A B 1 2 3 4 5 6 7 6 9 10 11 12 13 14 15 17 18	Units) 		-	ł	-	!
UNWARNED TARGET ELEMENTS POSTURE DATA	A 1234567	Parameter	POST(1,J)	POST(2,J)	POST(3,J)	POST(4,J)	POST(5,J)	POST(6,J)	POST(7,J)	POST(8,J)
NNN		ID	A	В	υ.	۵	LLI	Щ	ڻ ت	π΄

		T -	42	Card: 13
Card: 13	A B C D E F G H I I I I I I I I I I I I I I I I I I	Description	POST(I,J) = 1.0 for 3 < I < 10 indicates that element (I-2) is the critical element for targets with posture J NOTE: A card of this type is required for each posture in the scenario. Each card of this type must be followed by a type 14 card. Maximum number of cards is 18.	tara: 13
АТА	D April 12 major 21 major	Columns	65-72	
POSTURE DATA	C C C C C C C C C C	Format	F8.3	
ELEMENTS	B Sportstanes	Units		
UNWARNED TARGET	A 1 2 3 4 5 6 7	Parameter	POST(9,J)	
UNWA		ID	H	

										Card:	14
Card: 14	A B C D E F G H I I	Description	Fraction of warned personnel standing for j th posture	Fraction of warned personnel prone for j th posture	Fraction of warned personnel crouching for j th posture	POST(I,J) = 1.0 for I \geq 13 indicates that element (I-2) is critical element for posture J	POST(I,J) = 1.0 for I > 13 indicates that element (I-2) is critical element for posture J	POST(I,J) = 1.0 for I > 13 indicates that element (I-2) is critical element for posture J	POST(I,J) = 1.0 for I > 13 indicates that element (I-2) is critical element for posture J	POST(I,J) = 1.0 for I ≥ 13 indicates that element (I-2) is critical element for posture J	
	U Taris sa saper saper	Columns	1-8	9-16	17-24	25-32	33-40	41-48	49-56	57-64	
TURE DAT	C re sta 21 22 24 25 24 25 24	Format	F8.3	F8.3	F8.3	F8.3	F8.3	F8.3	F8.3	F8.3	
EMENTS POS	B shoringiamskien	Units		!	!	-	!	;	!	!	
WARNED TARGET ELEMENTS POSTURE DATA	A 1 2 3 4 5 6 7 1	Parameter	POST(10,J)	POST(11,J)	POST(12,J)	POST(13,J)	POST(14,J)	POST(15,J)	POST(16,J)	POST(17,J)	
AR		ID	А	ω	U	۵	ш	LL	9	工	·

WARNED TARGET ELEMENTS POSTURE DATA 1.3 4. 4 bit B C D D D D D D D D D		7	·			
POSTURE DATA C D D 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					Card:	14
MARNED TARGET ELEMENTS POSTURE DATA 1 2 1 4 5 47 1	Card: 14	E F G H I I I I I I I I I I I I I I I I I I	Description	POST(I,J) = 1.0 for I ≥ 13 indicates that element (I-2) is critical element for posture J NOTE: A card of this type is required for each posture in the scenario. Each card of this type must be preceded by a type 13 card. Maximum number of cards is 18.		
MARNED TARGET ELEMENTS POSTURE DATA A		D Carlon as activa	Columns	65-72		
MARNED TARGET ELEMENTS POR BOLL STATE OF STATE O	STURE DAT	C Tells 70 21 22 22 25 38	Format			
In all short and the short of t	LEMENTS PO	B spendinasken	Units			
I I I I I I I I I I I I I I I I I I I	NED TARGET EL	A 123/456/78	Parameter	POST(18,J)		
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Card: 15 n scenario rd 3)	
ि Card: Description Description	
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A A Solve spendauspenn	
NUMBER OF ESTIMATED POSTURES ID Parameter Units Fo A NMSN It	
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7-64 5-72 3-80	F8.2 49-56 F8.2 57-64 F8.2 65-72 F8.2 73-80	,
		F8.2 F8.2

ттат Со 1 umns 1-5 6-10	RED BATTALIONS AND TARGETS		TARGET	IN THREAT	1.t	Card: 17
1-5 6-10	A B S of 1 s shan ad 31 u she 12 u sh	3 1 shan 12/13 14 12/16 17 114	풀	anin maken	5 26 26 18 30 18 18 18 18 18 18 18 18 18 18 18 18 18	का है। उस पर निर्मा पर निर्मा के कि है। इस
1-5 6-10	Parameter Units	Units		Format	Columns	Description
0-10	NTBN			15	1-5	Number of Red battalions in threat
	NITGTS	<u> </u>		15	9-10	Number of individual Red targets in threat
						NOTE: After this card has been read, information with respect to each Red battalion and Red target is entered from Logical File No. 3.
						Card:
						17
		,				

					Card:	18	
					- Cur u -	10	
18		B 51 81					
Card:	18 to the extension to the second second and when we have a second secon	10000					
Ca			sbu			-	
		tion	roupi 4)				
		Description	Number of military worth groupings (current maximum value of 4)				
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	aba ta taka	e Colto	ent m				
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	N 124 4 1	suu					
Si	8 27 Pa 29 30	Columns	1-5				
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Y WOR	क्षाम्या है।	Units					
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NUMBER OF MILITARY WORTH	A 1 2 3 4 5	Parameter	۵				
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6	DB 25 87 77 87		0ne	One	Two	Two	Three	Three	Four	Four							
Card: 19	H		No.	No.	No.	No.	No.	No.	No.	No.							
Car	E 69		roup	roup	roup	roup	roup	for Group	roup	roup						1	
ľ	G. der comp	on	for G	For G	for G	for G	for G	or G	or 6	or G							•
	158 59 658 62 6	Description	limit	limit 1	limit 1	limit 1	limit for Group No.	limit 1	limit for Group	limit 1							
	F E2 53 5455 54 5	Des	upper	lower	upper	lower	upper			lower		٠					
	15/46 47 48/49 50 5		worth	worth	worth	worth	worth	worth	worth	worth							
	394041 4243 44		Military worth upper limit for Group No.	Military worth lower limit for Group No.	Military worth upper limit for Group	Military worth lower limit for Group No.	Military worth upper	Military worth lower	Military worth upper	Military worth lower limit for Group							
	D изсэфля		Σ	Σ	Σ	Σ	Σ	Ξ	Σ	Σ.	·		·				
	7728 23 30pt 32 33pt	Columns	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80							
	C G H G G H H G G H H H G G G G G G G G	Format	F10.2	F10.2	F10.2	F10.2	F10.2	F10.2	F10.2	F10.2					• • • • • • • • • • • • • • • • • • • •		
LIMITS	A B B I s of s o special region regions regions and the state of s o special regions and the state of the sta	Units	i i	1	-				-	-						***************************************	t.
MILITARY WORTH LIMITS	123/4567	Parameter	GROUP(1,1)	GROUP(2,1)	GROUP(1,2)	GROUP(2,2)	GROUP(1,3)	GROUP(2,3)	GROUP(1,4)	GROUP(2,4)							
MIL		OI.	А	В	ပ	۵	Ш	ഥ	G	Ξ							

					Card: 20	
Card: 20	66 67 68 68 78 71 72 72 73 75 75 75 78 79 80		list	et list, it will y fire plan e easily value 1 for 1000.00, array on		
	A 1 2 3 4 5 6 7 8 9 10 11 12 12 12 14 15 12 14 15 25 14 15 15 15 15 15 15 15 15 15 15 15 15 15	Description	Number of fire plans on target (current maximum value of 15)	If no fire plans are on target list, it will be necessary to enter a dummy fire plan on cards 20, 21. This can be easily accomplished by reading the value 1 for NFPTM on card 20 and values 1000.00, 9000.00, 9999.00, for IMXFP array on card set 21.		
	भवा स्थापन स्थापन	Columns	1-5			
	17 22 42 22 12 05 04 04.	Format	15			
PLANS	म क्षेत्रका स्ट्रीय ११ वर्ष	Units	-			
NUMBER OF FIRE PLANS	1 2 3 4 5 6 7 1	Parameter	NFPTM			
NUM	İ	E	4			\dashv

											Card:	21a	
Card: 21a	I เรตุเกตรายการการต	_	n number	be force-processed	be force-processed	on number	be force-processed	be force-processed	n number	be force-processed	be force-processed	on number	
	A B C D E · F G H I I I I I I I I I I I I I I I I I I	Description	First fire plan identification number	Time at which fire plan will be force-processed by Division or Corps FDC	Time at which fire plan will be force-processed by battalion FDC	Second fire plan identification number	Time at which fire plan will be force-processed by Division or Corps FDC	Time at which fire plan will be f orce-processed by battalion FDC	Third fire plan identification number	Time at which fire plan will be force-processed by Division or Corps FDC	Time at which fire plan will be f orce-processed by battalion FDC	Fourth fire plan identification number	
	E		First	Time a	Time a	Second	Time a	Time a	Third	Time a	Time a	Fourt	
	C 27 <mark>28 28 30</mark> 31 32 33 <mark>3</mark> 34	Columns	8-1-8	9-16	17-24	25-32	33-40	41-48	49-56	57-64	65-72	73-80	
	C 18¶9 20 21 22 23 2425 21	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	
DATA	B 9 10 11 12 13 14 15 16 17	Units	1	minutes	minutes	1	minutes	minutes	t t	minutes	minutes	!	
RE PLAN TIME DATA	A 1 2 3 4 5 6 7 8	Parameter	TMXFP(1,1)	TMXFP(2,1)	TMXFP(3,1)	TMXFP(1,2)	TMXFP(2,2)	TMXFP(3,2) minutes	TMXFP(1,3)	TMXFP(2,3)	TMXFP(3,3)	TMXFP(1,4)	
FIRE		ΟI	А	В	ပ	D	ш	ட	ß	エ	Н	רי	

1-10-10-10-1										T_	1	21h
										Ca	rd:	21b
Card: 21b	A B C D E F G H I I J	Description	Time at which fourth fire plan will be force- processed by Division or Corps FDC	Time at which fourth fire plan will be force- processed by battalion FDC	Fifth fire plan identification number	Time at which fire plan will be force-processed by Division or Corps FDC	Time at which fire plan will be force-processed by battalion FDC	Sixth fire plan_identification number	Time at which fire plan will be force-processed by Division or Corps FDC	Time at which fire plan will be force-processed by battalion FDC	Seventh fire plan identification number	
	D Caracter states	Columns	1-8	9-16	17-24	25-32	33-40	41-48	49-56	57-64	65-72	
	C C 18	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2 ·	F8.2	F8.2	
DATA	B s pondansken	Units	minutes	minutes	1	minutes	minutes	!	minutes	minutes	!	
E PLAN TIME DATA	A 1 2 3 4 5 6 7 1	Parameter	TMXFP(2,4)	TMXFP(3,4)	TMXFP(1,5)	TMXFP(2,5)	TMXFP(3,5)	TMXFP(1,6)	TMXFP(2,6)	TMXFP(3,6)	TMXFP(1,7)	
FIRE		ID	4	В	ပ	۵	ш	ഥ		=	ы	

						Card:	21b
Card: 21b	A B C D E F G H I I J	Description	Time at which fire plan will be force-processed by Division or Corps FDC	NOIE: This card is required when more than three fire plans have been specified on card type 20. If no fire plans are played, see note on card set 20 description.			
	D Tree es selos se selos	Columns	73-80				
	C 6/19 20 21/22 23 24/25 26	Format	F8.2				
DATA	B spongastis	Units	minutes				
FIRE PLAN TIME DATA	A 1 2,3 4 5 6 7 8	Parameter	TMXFP(2,7)				
FIR		ID	ŗ)				

		T									Caradi	21c	
											Card:	210	
Card: 21c	C D E F G H I J	Description	Time at which seventh fire plan will be force- processed by battalion FDC	Eighth fire plan identification number	Time at which fire plan will be force-processed by Division or Corps FDC	Time at which fire plan will be force-processed by battalion FDC	Ninth fire plan identification number	Time at which fire plan will be force-processed by Division or Corps FDC	Time at which fire plan will be force-processed by battalion FDC	Tenth fire plan identification number	Time at which fire pla n will be force-processed by Division or Corps FDC		
	E F		Time at which processed by	Eighth fire p	Time at which fire plan v by Division or Corps FDC	Time at which fin by battalion FDC	Ninth fire pla	Time at which by Division or	Time at which fi by battalion FDC	Tenth fire pla	Time at which fire plan uby Division or Corps FDC		
	D Szipezsapiszap	Columns	1-8	91-6	17-24	25-32	33-40	41-48	49-56	57-64	65-72		
	C 7 18 18 28 28 28 25 25 25 25 25 25 25 25 25 25 25 25 25	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2		
DATA	A B B S S T e spendanskerm	Units	minutes	1	minutes	minutes		minutes	minutes	1	minutes		
FIRE PLAN TIME DATA	A	Parameter	TMXFP(3,7)	TMXFP(1,8)	TMXFP(2,8)	TMXFP(3,8)	TMXFP(1,9)	TMXFP(2,9)	TMXFP(3,9)	TMXFP(1,10)	TMXFP(2,10) minutes		
FI		ID	A	8	ပ	۵	ш	LL.	9	Ξ	Н		

		T				Card: 21c	
Card: 21c	A B C D E F G H H I I J	Description	Time at which fire plan will be force-processed by battalion FDC	NOTE: This card is required when more than six fire plans ha ve been specified on card type 20.			
	D sejec ze sejes se sejes	Columns	73-80				
	C Sep 20 21 22 24 25 24	Format	F8.2				
DATA	B shorrepression	Units	minutes				
PLAN TIME		Parameter	TMXFP(3,10) minutes				
FIRE		11	רי				

					*****						Card:	21d
Card: 21d	A B C D E F G H I I I J	Description	Eleventh fire plan identification number	Time at which fire plan will be force-processed by Division or Corps FDC	Time at which fire plan will be force-processed by battalion FDC	Twelfth fire plan identification number	Time at which fire plan will be force-processed by Division or Corps FDC	Time at which fire plan will be force-processed by battalion FDC	Thirteenth fire plan identification number	Time at which fire plan will be force-processed by Division or Corps FDC	Time at which fire plan will be force-processed by battalion FDC	210
	U Caratara salus	Columns	1-8	9-16	17-24	25-32	33-40	41-48	49-56	57-64	65-72	
	C 118 20 22 22 22 22 22 22	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	
DATA	B sponzanoska	Units	;	minutes	minutes		minutes	minutes	!	minutes	minutes	
FIRE PLAN TIME DATA	A 123/456/7	Parameter	TMXFP(1,11)	TMXFP(2,11) minutes	TMXFP(3,11) minutes	TMXFP(1,12)	TMXFP(2,12) minutes	TMXFP(3,12) minutes	TMXFP(1,13)	TMXFP(2,13) minutes	TMXFP(3,13)	
\propto	Ī	ID	A	8	ပ	۵	ш	LL.	5	=		

	\neg				Card:	21d
Card: 21d	U I S		ation number	nen more than ied on card		
	G H Sassassias sa salas sa s	Description	Fourteenth fire plan identification number	NOTE: This card is required when more than 10 fire plans have been specified on card type 20.		
	A B C D E F G H I I I J		Fourteenth fire	NOTE: This car 10 fire plans type 20.		
	ी श्रीय स्थाप स्थाप	Columns	73-80			
	C C C C C C C C C C	Format	F8.2			
JATA	B s lo 11 z li 3 te 15 le 17 1	Units				
E PLAN TIME DATA	A 1 2 3 4 5 6 7 0	Parameter	TMXFP(1,14)			
FIRE		1	ŋ			

	1	7							
									Card: 21e
Card: 216	C D E E A COLLEGIA DE MARIE DE LA COLLEGIA DE MARIE DE CARROL DE C	Description	Time at which fourteenth fire plan will be force- processed by Division or Corps FDC	Time at which fourteenth fire plan will be force- processed by battalion FDC	Fifteenth fire plan identification number	Time at which fire pla n will be force-processed by Division or Corps FDC	Time at which fire plan will be force-processed by battalion FDC	NOTE: This card is required when more than 13 but not more than 15 fire plans have been specified on card type 20.	
	D Carps as with a same	Columns	1-8	9-16	17-24	25-32	33-40		
	C 18 18 28 22 22 22 23 23 23	Format	F8.2	F8.2	F8.2	F8.2	F8.2	,	
DATA	A B B 1 2 1 4 2 1 4 2 1 4 1 4 1 4 1 4 1 4 1 4	Units	minutes	minutes		minutes	minutes		
E PLAN TIME DATA	A 12345671	Parameter	TMXFP(2,14) minutes	TMXFP(3,14) minutes	TMXFP(1,15)	TMXFP(2,15)	TMXFP(3,15)		
FIRE		ID	A	m	Ü	Q	ш		

	T		Card: 22
Card: 22	selenzinninn		
	માન કેટલા માટે કેટલા કેટલા કેટલા કેટલા કેટલા કેટલા મુખ્ય કેટલા કેટલા કેટલા કેટલા કેટલા કેટલા કેટલા કેટલા કેટલા ક	Description	Number of enemy communications jams (current maximum value of 5)
	27728 23 38 31 32 33 34	Columns	1-5
JAMS	As and an adversary	Format	
OF COMMUNICATIONS JAMS	A 1 2 3 4 5 6 7 8 9 18 11 12 12 14 14 17 19	Units	
NUMBER OF COMMU	A 1 2 3 4 5 6 7 1	Parameter	NZAP
NUM		αI	А

	78.79 80		jam		jam	jam	jam		jam	<u> </u>	E.		Card:	23
Card: 23	A B C D E F G H I I I J J STATES SEPTING TO BE TO BE TO BE TO BE TO BE TO BE SEPTING TO BE	Description	Start time of first enemy communications ja	Stop time of first enemy communications jam	Start time of second enemy communications jam	Stop time of second enemy communications ja	Start time of third enemy communications ja	Stop time of third enemy communications jam	Start time of fourth enemy communications j	Stop time of fourth enemy communications jam	Start time of fifth enemy communications jam	Stop time of fifth enemy communications jam		
	Е лфикафизи	S	Sta	Sto	-11	Sto	Sta	Sto	Sta	Sto	Sta	Sto		
	D Se se se se se se	Columns	1-8	91-6	17-24	25-32	33-40	41-48	49-56	57-64	65-72	73-80		
	C 7 16/19 20 21/22 23 2425	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2		
JAM TIMES	B 	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes		
COMMUNICATIONS JAM TIMES	A 123/456/7	Parameter	EW(1,1)	EW(2,1)	EW(1,2)	EW(2,2)	EW(1,3)	EW(2,3)	EW(1,4)	EW(2,4)	EW(1,5)	EW(2,5)		
Ś		ID	4	8	ပ	O	ш	ш	5	Ŧ	—	r		

		T		s	Card: 24
			(6)	n th	
24	17.18.19.00		stem of 20	yed i	
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Card:	# S # 17		weap	ystem	
	the to the	e e	Blue	s uod	
	33 64 12	Description	d and	ı wea	
	\$455 56 57/5	Desc	t Red (cun	ıt Rec	
	13 50 51 52 53		Number of different Red and Blue weapon systems in input data deck (current maximum value of 20)	Number of different Red weapon systems played in this run of the program	
) 12 48 47 48		f dif data	f dif ne pr	
	10 41 4243 4		ber o input	ber o of tl	
	SS 36 71 38 38		Num	Num	
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S	ra mpa za	_	1-5	6-10	
SYSTEMS	ala su ele	Format	22	2	
1	17.148.2E		I5	I5	
DIFFERENT WEAPON	मुझ ल होत	Units			
ERENT	B 9	ภ	1		
DIFF	A B B 123 4 5 6 7 6 9 6 9 11 2 3 14 5 6 7 6 9 9 10 11 2 12 14	ter			
SER OF		Parameter	NSYS	NSYSE	
NUMBER		ID	А	В	

Į.	WEAPON SYSTEMS SELECTION	SELECTION			Card: 25a
	A B B 1 2 3 4 5 6 7 7	C C C C C C C C C C C C C C C C C C C	E E	F G	A B C D E F G H · I J K L M N O P
ID	Parameter	Units	Format	Columns	Description
A	KSIG(1)	1	I5	1-5	Flag for first weapon system = (1. used; =0, do not use)
В	KSIG(2)		15	6-10	Flag for second weapon system = (1. used; =0, do not use)
ပ	KSIG(3)	!	15	11-15	Flag for third weapon system = (1. used; =0, do not use)
۵	KSIG(4)	!	15	16-20	Flag for fourth weapon system = (1. used; =0, do not use)
Ш	KSIG(5)	ļ	. 5I	21-25	Flag for fifth weapon system = (1. used; =0, do not use)
L .	KSIG(6)	i i	15	26-30	Flag for sixth weapon system = (1. used; =0, do not use)
5	KSIG(7)	!	15	31-35	Flag for seventh weapon system = (1. used; =0, do not use)
	KSIG(8)	!	15	36-40	Flag for eighth weapon system = (1. used; p. =0, do not use) ::
н	KSIG(9)		15	41-45	Flag for ninth weapon system = (1. used; e9 = 0, do not use)
J.	KSIG(10)		15	46-50	Flag for tenth weapon system = (1. used; =0, do not use)

		T							Card:	25a
Card: 25a	A B C D E F G H I J K L M N O P	Description	Flag for eleventh weapon system (=1. used: =0, do not use)	Flag for twelfth weapon system (=1. used; =0, do not use)	Flag for thirteenth weapon system (=1. used; =0, do not use)	Flag for fourteenth weapon system (=1. used; =0, do not use)	Flag for fifteenth weapon system (=1. used; =0, do not use)	Flag for sixteenth weapon system (=1. used; =0, do not use)	NOTE: Current dimensions of some system data arrays require that not more than 11 of the KSIG values be equal to 1. The first N systems must be Blue; the next NSYS-N systems must be Red.	
	F G	Columns	51-55	26-60	61-65	02-99	71-75	76-80		
) E eles za zalzszes	Format	15	15	15	15	15	15		
SYSTEMS SELECTION	C Shehi izlis i 4 islis i 7 i	Units	!	! !	:	!	!	! !		
ON SYSTEMS	A B	Parameter	KSIG(11)	KSIG(12)	KSIG(13)	KSIG(14)	KSIG(15)	KSIG(16)		
WEAPON		ID	~		Σ	z	0	۵.		

									Card:	2 5b	
Card: 25b	कराता स्थान सम्मान स्थापन स	Description	Flag for seventeenth weapon system (=1. used; =0, do not use)	Flag for eighteenth weapon system (=1. used; =0, do not use)	Flag for nineteenth weapon system (=1. used; =0, do not use)	Flag for twentieth weapon system (=1. used; =0, do not use)	NOTE: This card required when more than 16 but not more than 20 weapon systems have been .				
	transpar	Columns	1-5	6-10	11-15	16-20					
	D Istoprazione	Format	15	15	15	15		,			
SELECTION	A B C D	Units.	1		İ	1					
WEAPON SYSTEMS SELECTION	A B	Parameter	KSIG(17)	KSIG(18)	KSIG(19)	KSIG(20)					
WEAF		ID	۷.	В	ပ	۵					

						-					Card: 26a
Card: 26a	A B C D E F G H I J K L M N O P	Description					Alphanumeric weapon system title				NOTE: A card of this type is required for each different weapon system in the input data deck. Maximum number of cards of this type is 20. Each one of these cards must be followed by card types 26b, 26c, 26d, and 26e, in that order (one of each type).
	F G	Columns	1-5	01-9	11-15	•	•	•	21-12	76-80	
) E	Format	A5	A5	A5	•	•	•	A5	A5	
TTLE	C C I	Units	1	!	1	•	•	•	1	1	
WEAPON SYSTEM TITLE	A B	Parameter	SRDIX(1)	SRDIX(2)	SRDIX(3)	•	•	•	SRDIX(15)	SRDIX(16)	
WEA		ID	А	В	ပ	•	•		0	۵	

rification 2 = self-pr 2 = self-pr 2 = self-pr 2 = self-pr 2 = self-pr 2 = self-pr 2 = self-pr 2 = self-pr 2 = self-pr 2 = self-pr 2 = self-pr 2 = self-pr 2 = self-pr 2 = self-pr 2 = self-pr 3 = system 3 = sile; = 3.0 imum range	Columns 1-8 Identification xx.2 = self-pr propelled armo propelled armo propelled armo propelled armo ith system 17-24 Static rate of system (for Re per launcher; MRL, etc.) 41-48 Weapon system missile; = 3.0 67-64 Maximum number	П ж	Card: 26b	G I H I Seekeles anderen anderen 1872 1878 1878 1878 1878 1878 1878 1878	Description	number for ith system (xx.1 = towed; opelled unarmored; xx.3 = self-red)	s or launchers per fire unit for	fire per tube for i th system	f fire per tube for i th system	Maximum number of rounds per tube per hour for ith system (for Red systems, this is the number of tubes per launcher; i.e., I for cannon, 40 for 122-mm MRL, etc.)	type (1.0 = cannon; 2.0 = guided , multiple rocket launcher)		of vollevs per mission per battery
	Columns Columns 1-8 Identifi xx.2 = s propelle 9-16 Number o ith syst 17-24 Static r S5-32 Dynamic system (per laun MRL, etc 41-48 Weapon s missile; 49-56 Maximum 57-64 Maximum	Format Columns Format Columns F8.2		त्र त्राचित स्वतिक स्वतिक स्वतिक स्वतिक स्वतिक स्वतिक स्वतिक स्वतिक स्वतिक स्वतिक स्वतिक स्वतिक स्वतिक स्वतिक स	Description	<pre>Identification number for ith system (xx.1 = towed; xx.2 = self-propelled unarmored; xx.3 = self- propelled armored)</pre>	Number of tubes or launchers per fire unit for i th system	Static rate of fire per tube for i th system	Dynamic rate of fire per tube for i th system	Maximum number of rounds per tube per hour for its system (for Red systems, this is the number of tube per launcher; i.e., I for cannon, 40 for 122-mm MRL, etc.)	Weapon system type (1.0 = cannon; 2.0 = guided missile; = 3.0, multiple rocket launcher)	Maximum range of i th system	Maximum number of volleys per mission per battery for ith system
Units Format Units Format F8.2 rounds F8.2 rounds F8.2 per minute rounds F8.2 F8.2	Units Units Units minute rounds per minute rounds per tube per hour kilo- meters			A 1 2 3 4 5 6 7	Parameter	SYSID(I)	TPFU(I)	SROF(I)	DROF(I)	HNMX(I)	STYP(I)	RNGMAX(I)	AXVOL(I)
1.1.3 4.5.6 1.6.	Parameter Units SYSID(I) TPFU(I) SROF(I) rounds per minute DROF(I) per minute minute TYP(I) rounds per hour STYP(I) rounds AXVOL(I) meters AXVOL(I)	Parameter SYSID(I) TPFU(I) SROF(I) BROF(I) HNMX(I) RNGMAX(I) AXVOL(I)		1	ID	V	8	ပ	0	ш	LL.	5	Ξ

		П	_:··		<u></u>	 		Card:	26b	
Card: 26b	A B C D E F G H I I J	Description	Time between fire missions for i th system	Number of rounds in basic load per battery for i th system.	NOTE: Maximum number of cards of this type is 20. Each card of this type must be preceded by a type 26a card, and followed by card type 26c, 26d, and 26e in that order (one of each type).			Lard:	200	
	D Tripe za septra szepter sz	Columns	65-72	73-80						
	C 	Format	F8.2	F8.2						
ATA	B shoringianensherm	Units	minutes	! ! !						
WEAPON SYSTEM DATA	A 1 2 3 4 5 6 7	Parameter	TBM(I)	SBLD(I)						
WEA		ID	I	ר						

			_		Ŋ.						Card:	26c		
Card: 26c	A B C D E F G H I I J	Description	Battery resupply rate in rounds per hour for i th system	Maximum number of volleys per battery on a fire plan target for i th system	Ratio of volleys per battery for ith system compared to a base system (155-mm is base system); For Red force, this gives number of 122-mm HE rounds equivalent to one of this system's rounds	Time between fire plans for i th system	Minimum number of tubes per battery for battery to be considered available for ith system	Short-term time to repair a failure due to firing	Long-term time to repair a failure due to firing	Short-term time to repair a failure due to moving	Long-term time to repair a failure due to moving			
	D 27/28 23 mghs 32 mghs 3	Columns	1-8	9-16	17-24	25-32	33-40	41-48	49-56	57-64	65-72			
	C Teles 20 20/22 22 225 25	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2			
ATA	B sherrafianersherr	Units	1		i	minutes	!	hours	hours	hours	hours			
WEAPON SYSTEM DATA	A 1 2 3 4 5 6 7 1	Parameter	SRSPY(I)	FPVOL(I)	FPRAT(I)	TBFPM(I)	TUBMIN(I)	TRFFS(I)	TRFFL(I)	TRFMS(I)	TRFML(I)		,,,	
WEA		ID	A	Ω	U	0	ш	ш	5	Ŧ	н			\dashv

		\neg				 Card	: 26c	
Card: 26c	A B C D E F G H I I J	Description	Short-term time to repair a failure due to enemy attrition	NOTE: Maximum number of cards of this type is 20. Each card of this type must be preceded by card types 26a and 26b and followed by card types 26d and 26e in that order (one of each type).			. 200	
	D 272s 25 10fot 82 82fr2	Columns	73-80					
	C 	Format	F8.2					
DATA	B shoniginashem	Units	hours					
WEAPON SYSTEM DATA	A 1 2 3 4 5 6 7 1	Parameter	TRFAS(I)					
WEA		ΩI	77		 			

		T				-					Card:	264	 _
Card: 26d	A B C D E F G H I I J	Description	Long-term time to repair a failure due to enemy attrition	Number of rounds between short-term failures	Number of rounds between long-term failures	Number of rounds between permanent failures	Distance traveled between short-term failures	Distance traveled between long-term failures	Distance traveled between permanent failures	Expected time to change tube when tube life is exceeded	Tube life in number of rounds fired	26d	
	D Carlos es septe as actives	Columns	1-8	9-16	17-24	25-32	33-40	41-48	49-56	57-64	65-72		
	C 18 8 20 20 22 23 24 25 20	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2		
DATA	B Bennalistensken	Units	hours		-	1	kilo- meters	kilo- meters	kilo- meters	hours	1		
WEAPON SYSTEM DATA	A 1 2 3 4 5 6 7	Parameter	TRFAL(I)	RBFS(I)	RBFL(I)	RBFP(I)	DBFS(I)	DBFL(I)	DBFP(I)	ETCT(1)	TUBLIF(I)		
WE,		OI	A	В	ပ	O	ш	ш.	ប	ェ	н		 1

	T	Т			1.00	Card:	26d
Card: 26d	C D E F G H I J	Description	Fractional tube damage enemy counterfire (five battalion volleys of a weighted ammo mix) would inflict on a Blue battery having this system	NOTE: Maximum number of cards of this type is 20. Each card of this type must be preceded by card types 26a, 26b, and 26c, and followed by card type 26e, in that order (one of each type).			
	alp napa salp	Columns	73-80 F	2 11 + 1	 		
	O Supra	ပ	73				
	C C shs 20 21 22 23 2425 ;	Format	F8.3				
ATA	A B S of T o short distant shept reps	Units	1				
WEAPON SYSTEM DATA	1 2 3 4 5 6 7 1	Parameter	TOTATR(I)				
WEA		QI	D.				

				_				Card:	26e	
Card: 26e	C national sections who are special sections sections sections sections and sections are sections and sections are sections and sections are sections and sections are sections and sections and sections are sections and sections are sections and sections are sections and sections are sections and sections are sections and sections are sections and sections are sections and sections are sections and sections are sections and sections are sections and sections are sections are sections and sections are sections and sections are sections are sections and sections are sections and sections are sections are sections and sections are sections are sections are sections and sections are sections are sections and sections are section	Description	Fraction of TOTATR(I) value that would be short- term tube damage	Fraction of TOTATR(I) value that would be long-term tube damage	Fraction of TOTATR(I) value that would be permanent tube damage	NOTE: Maximum number of cards of this type is 20. Each card of this type must be preceded by card types 26a, 26b, 26c, and 26d, in that order (one of each type).				
	A THE EXPLISION	Columns	1-8	9-16	17-24					
	C C C C C C C C C C C C C C C C C C C	Format	F8.3	F8.3	F8.3		,			
ATA	A B Benefit neferrely	Units	 							
WEAPON SYSTEM DATA	A 1 2 3 4 5 6 7 1	Parameter	CBDAMS(I)	CBDAML(I)	CBDAMP(I)					
WEA	1	£	V	æ	ပ				,	

A NRS		_				 				
A A A A A A A A A A			T		1			 Card:	27	
NRS NRS	Card: 27	ड अद्वीत का अधिक सा स्थ्रीत सम्मान का अधिक का अधिक का अधिक का मित्रा कर महिल्लाक म्यानिक सम्मान प्रदेश कर का उत्तर क	Description	Number of round types to be read from punched cards	NOTE: Current maximum number of rounds used by the systems, keyed in by KSIG array in Subroutine SYSTEM, is 25. There may be an unlimited number of different rounds in the input deck, as long as not more than 25 are used in any one force mix.					
NRS NRS		1 1/2 12 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	Columns	1-5			·			
NRS NRS		uls markes retra	Format	15						
NRS NRS) TYPES	1 3 1 2 1 3 1 3 1 4 1 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Units	-	·					
	MBER OF ROUNE	1 2 3 4 5 6 7	Parameter	NRS						
I I D A	N		1	٧						

	1	T	_						-		
											Card: 28
Card: 28	A B C D E F G H I J K L M N O P	Description				I more a second and a second an	Alphanumeric round name and weapon system identification				NOTE: The number of cards required is based on the value of NRS as entered on card type 27 (maximum value of 25). Each card of this type must be followed by a type 29 card.
ATION	F G	Columns	1-5	6-10	11-15		•	•	71-75	76-80	
IDENTIFICA	D E	Format	A5	A5	A5	•	•	•	A5	A5	
ON SYSTEM	C C	Units	-	1		•	٠	•	-	ŀ	
ROUND AND WEAPON SYSTEM IDENTIFICATION	A E	Parameter	SRDIX(1)	SRDIX(2)	SRDIX(3)	٠	•	•	SRDIX(15)	SRDIX(16)	
ヿヿヿ			A	ω	ပ		•		0	Д.	

												Card:	29
Card: 29	A B C D E F G H I I I I I I I I I I I I I I I I I I	Description	Round caliber ID number for ith round type in a particular system (SYSID(IS) < RNDID(I) < 100	for use with system IS)	Crated unit weight for ith round type	Cost per round in thousands of dollars for ith round type	Maximum range of i th round type	In-flight reliability of ith round type	Type of round (1.0 = ICM; $2.0 = HE$; $3.0 = CLGP$)	Basic load per battery for ith round type	Resupply rate per battery for i th round type	Estimated radius of effects per battery volley for i th round type	NOTE: The number of cards required is based on the value of NRS as entered on card type 27. Each card of this type must be preceded by a type 28 card. Maximum number of cards of this type is 25.
	D 2 27/28 28 30/31 32 33/34	Columns	1-8		9-16	17-24	25-32	33-40	41-48	49-56	57-64	65-72	
PES)	C 18/19 20 21/22 23 24/25 20	Format	F8.2		F8.2	F8.2	F8-2	F8.2	F8.2	F8.2	F8.2	F8.2	
TON (ALL TY	B she ii izlisi ia izlici ii	Units			metric tons	kilo- dollars	kilo- meters	!	!!	rounds	rounds per hr	meters	
ROUND INFORMATION (ALL TYPES)	A 1 2 3 4 5 6 7 1	Parameter	RND ID (I)		WGT(I)	CST(I)	RMX (I)	REL(I)	RTP(I)	BLD(I)	RGPY(I)	RDAM(I)	
ROL		ID	А	В	ပ	D	ш	LL	G.	工	H		

									ل	Card:	30a	
Card: 30a			rsus error and EFC	ersus e rror an d EFC	rsus error and EFC	ersus error and EFC	rsus error and EFC	rsus error and EFC	versus error and EF	ersus error and EFC	rsus error and EFC	
	C D E F G H II I I I I I I I I I I I I I I I I	Description	First range value for range versus error and EFC tables for ith round type	Second range value for range versus error and EFC tables for ith round type	Third range value for range versus error and EFC tables for ith round type	Fourth range value for range versus error and tables for i th round type	Fifth range value for range versus error and tables for ith round type	Sixth range value for range versus error and EFC tables for i th round type	Seventh range value for range versus error and EFC tables for ith round type	Eighth range value for range versus error and EFC tables for ith round type	Ninth range value for range versus error and EFC tables for ith round type	
	E passadarasak		Fir	Sectab	Thi	Four	Fif	Six	Seve	Eigh tab	Nint tab	
ES)	D 8 27/21 23 30/21 32 3	Columns	1-8	91-6	17-24	25-32	33-40	41-48	49-56	57-64	65-72	
ND HE TYPES)	C 11119 20 21 22 23 2425	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	
ION (ICM A	A B selve shoundingshen she	Units	kilo- meters	kilo- meters	kilo- meters	kilo- meters	kilo- meters	kilo- meters	kilo- meters	kilo- meters	kilo- meters	
ROUND INFORMATION (ICM AND	1 2 3 4 5 6 7	Parameter	RG(I,1)	RG(I,2)	RG(I,3)	RG(I,4)	RG(I,5)	RG(I,6)	RG(1,7)	RG(I,8)	RG(I,9)	
ROU		ū	А	B	ပ	۵	ш	LL.	g	工	Н	

NEORWATION (ICM AND HE TYPES) E	
Card: 30a G H I J J Description value for range versus error and EFC th round type M or HE rounds. Each card of this preceded by a type 28 and type 29 that have to order. It is not required that is be used; however, the range values scending order, with the last range to the maximum range of the round.	
nth range bles for i e number o ecified IC pe must be rd, in that I lo range st be in a lue equal	
E E Tent tab Tent type carcanal must value	
25) D Columns 73-80	
ID HE TYPES) C	
ION (ICM AND B B Wishingh Whits Write Wilo-meters	
ROUND INFORMATION 1.1 5 1 9 9 9 9 9 9 9 9 9	
OZ C C	

				Call Comment of the	and her dependent					· · · · · · · · · · · · · · · · · · ·			Card: 30b
Card: 30b	C D E F G H II I I O	Description	Round-to-round error at first range value (CPE)	Round-to-round error at second range value (CPE)	Round-to-round error at third range value (CPE)	Round-to-round error at fourth range value (CPE)	Round-to-round error at fifth range value (CPE)	Round-to-round error at sixth range value (CPE)	Round-to-round error at seventh range value (CPE)	Round-to-round error at eighth range value (CPE)	Round-to-round error at ninth range value (CPE)	Round-to-round error at tenth range value (CPE)	NOTE: The number of cards required is based on the number of cards of card type 29 that have specified ICM or HE rounds. Each card of this type must be preceded by a type 28, type 29, and type 30a card, in that order.
(S:	ी प्रदेश प्रदेश स्था स्थापित	Columns	1-8	91-6	17-24	25-32	33-40	41-48	49-56	57-64	65-72	73-80	
ID HE TYPES)	C 18 20 20 20 22 23 24 25 28	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	
ION (ICM AN	A B 1 2 3 4 5 6 7 8 9 horrigian isperimens	Units	meters	meters	meters	meters	meters	meters	meters	meters	meters	meters	
ROUND INFORMATION (ICM AND	A 1234567	Parameter	CPR(I,1)	CPR(I,2)	CPR(I,3)	CPR(I,4)	CPR(I,5)	CPR(I,6)	CPR(I,7)	CPR(I,8)	CPR(I,9)	CPR(I,10)	
ROU		Ω	A	В	ပ	۵	LЦ	ᄔ	ၒာ	Ξ	—	٦	

													Card: 30c	
Card: 30C	A selve spenistion istenden in the configuration of	ription	Description	system error at first range value	second range value	third range value	at fourth range value	at fifth range value	sixth range value	system error at seventh range value	system error at eighth range value	system error at ninth range value	Total system error at tenth range value	NOTE: The number of cards required is based on the number of cards of card type 29 that have specified ICM or HE rounds. Each card of this type must be preceded by a type 28, type 29, type 30a, and type 30b card, in that order.
	H es seles	scrip	t fir	at sec	at thi	t fou	t fif		t sev	t eig	t nin	t ten	card of ca round id by Ob ca	
	6 8 8 8 8 8 8 8	De	error a	error a	error a	error a	error a	system error at	error a	error a	error a	error a	of cards of cards of cards of cards of cards of card or HE rounds. be preceded by a and type 30b card	
	Festoria		ystem	system error	system error	system error	system error	ystem	ystem	ystem	ystem	ystem	The nu number of ified ICM must be 30a, and	
	मध्येय प्रका		Total sy	Total sy	Total sy	Total sy	Total sy	Total sy	Total sy	Total sy	Total sy	tal sy	NOTE: The the number specified type must type 30a,	
	35.36(2) 38.38		Tot	Tot	Tot	Tot		Tot	Tot	Tot	To 1	To	NOT the type	
(S:	D 27/28 28 38/31 32/33/4:	Columns	8-1	9-16	17-24	25-32	33-40	41-48	49-56	57-64	65-72	73-80		
ND HE TYPES)	C 18 19 20 21 22 23 2425 21	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2		
ON (ICM A	B B n zan san san zan zan zan zan zan zan zan zan zan z	Units	meters	meters	meters	meters	meters	meters	meters	meters	meters	meters		
ROUND INFORMATION (ICM AND	1 2 3 4 5 6 7 1	Parameter	CPS(I,1)	CPS(I,2)	CPS(I,3)	CPS(I,4)	CPS(I,5)	(PS(I,6)	CPS(I,7)	CPS(I,8)	(PS(I,9)	CPS(1,10)		
ROU		ID	A	മ	ပ	۵	Ш	IL.	Ü	工	П	רי		

									A.				Card: 30d
Card: 30d	A B C D F TO SECTION TO THE SECTION OF THE SECTION	Description	Equivalent full charge value at first range value	Equivalent full charge value at second range value	Equivalent full charge value at third range value	Equivalent full charge value at fourth range value	Equivalent full charge value at fifth range value	Equivalent full charge value at sixth range value	Equivalent full charge value at seventh range value	Equivalent full charge value at eighth range value	Equivalent full charge value at ninth range value	Equivalent full charge value at tenth range value	NOTE: The number of cards required is based on the number of cards of card type 29 that have specified ICM or HE rounds. Each card of this type must be preceded by a type 28, type 29, type 30a, type 30b, and type 30c card, in that order.
(S	D separation supers	Columns	1-8	91-6	17-24	25-32	33-40	41-48	49-56	57-64	65-72	73-80	,
(D HE TYPES)	C C C C C C C C C C C C C C C C C C C	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	
ON (ICM AN	B shenishienshen	Units	i	1	-	;	!!!	!	-	!	-	!	
ROUND INFORMATION (ICM AND	1 2 3 4 5 6 7 0	Parameter	CHG(I,1)	CHG(I,2)	CHG(I,3)	CHG(I,4)	CHG(I,5)	CHG(I,6)	CHG(I,7)	CHG(I,8)	CHG(I,9)	CHG(I,10)	
ROU		<u>a</u>	А	മ	ပ	0	ш	ட	5	I	Н	٦	

			!				 			Card:	31'	
Card: 31	C D E F G H I J Na zapiz za zajes a adan za zajen a sajen a sajen a sajen a sajen sa sajen sa sajen sa sajen a	Description	l area per round versus standing personnel t at first range value in an open environment	l area per round versus standing personnel t at second range value in an open environment	l area per round versus standing personnel t at third range value in an open environment	l area per round versus standing personnel t at fourth range value in an open environment	l area per round versus standing personnel t at fifth range value in an open environment	l area per round versus standing personnel t at sixth range value in an open environment	area per round versus standing personnel at seventh range value in an open environment	area per round versus standing personnel at eighth range value in an open environment	area per round versus standing personnel at ninth range value in an open environment	
	E sodorasak		Lethal target	Lethal target	Lethal target	Lethal target	Lethal target	Lethal target	Lethal target	Lethal target	Lethal target	
	D 25 27 28 29 30 21 32 33 2 4 3	Columns	8-	9-16	17-24	25-32	33-40	41-48	49-56	57-64	65-72	
	C 1 18/19 20 21/22 23 24/25	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	
HE ONLY)	A B 12 3 4 5 6 7 6 9 10 11 11 11 11 11 11 11 11 11 11 11 11	Units	meters ²	meters ²	meters ²	meters ²	meters ²	meters ²	meters ²	meters ²	meters ²	
LETHAL AREAS (HE ONLY)	A 1 2 3 4 5 6 7	Parameter	AL(1)	AL(2)	AL(3)	AL(4)	AL(5)	AL (6)	AL(7)	AL (8)	AL (9)	
E.		ID	٨	Ω	ပ	Ω	ш	ഥ	ധ	=	н.	

					Card: 31	
Card: 31	E F G	Description	Lethal area per round versus standing personnel target at tenth range value in an open environment	NOTE: Each time an HE round is specified on card type 29, either 9, 18, 27, or 36 cards of type 31 are required. The number of cards depends on the value of NEV entered on card type 12. Table 3-11 lists the 36 cards of this type that may be required. These cards must be preceded by a type 30d card.	oure. Si	
		Columns	73-80			
	C els 20 alz 23 azas 24	Format	F8.2			
(HE ONLY)	B sperrationsherv	Units	meters ²			
LETHAL AREAS (H	A 1 2 3 4 5 6 7 1	Parameter	AL (10)			
LET		01	ŋ		 	

TABLE 3-11. Lethal Area Data Cards for HE Rounds (Card Type 31).

1	AL(J), J = 1, 10	Lethal area per round versus personnel standing target at 10 range values for an open environment
2	AL(J), J = 11, 20	Lethal area per round versus personnel prone target at 10 range values for an open environment
3	AL(J), J = 21, 30	Lethal area per round versus personnel crouching target at 10 range values for an open environment
4	AL(J), J = 31, 40	Lethal area per round versus tank target at 10 range values for an open environ- ment; for Red rounds, the lethal area per round versus whatever Blue 105-mm system is played at 10 range values in an open environment
5	AL(J), J = 41, 50	Lethal area per round versus APC target at 10 range values for an open environ- ment; for Red rounds, the lethal area per round versus whatever Blue towed 155-mm system is played at 10 range values in an open environment
6	AL(J), J = 51, 60	Lethal area per round versus truck target at 10 range values for an open environment; for Red rounds, the lethal area per round versus whatever Blue self-propelled, armored 155-mm system is played at 10 range values in an open environment
7	AL(J), J = 61, 70	Lethal area per round versus artillery tube target at 10 range values for an open environment; for Red rounds, the lethal area per round versus a Blue self-propelled, unarmored 8-inch or 175-mm system (whichever is played) at 10 range values in an open environment

TABLE 3-11. Lethal Area Data Cards for HE Rounds (Card Type 31)
-- Contd.

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8.	AL(J), J = 71, 80	Lethal area per round versus radar target at 10 range values for an open environment; for Red rounds, the lethal area per round versus a Blue missile or rocket launcher (whichever is played) at 10 range values in an open environment
9.	AL(J), J = 81, 90	Lethal area per round versus missile launcher target at 10 range values for an open environment; leave blank for Red rounds
10.	AL(J), $J = 91$, 100	Lethal area per round versus personnel standing target at 10 range values for a wooded environment
11.	AL(J), J = 101, 110	Lethal area per round versus personnel prone target at 10 range values for a wooded environment
12.	AL(J), J = 111, 120	Lethal area per round versus personnel crouching target at 10 range values for a wooded environment
13.	AL(J), J = 121, 130	Lethal area per round versus tank target at 10 range values for a wooded environment; for Red rounds, the lethal area per round versus whatever Blue 105-mm system is played at 10 range values in a wooded environment
14.	AL(J), J = 131, 140	Lethal area per round versus APC target at 10 range values for a wooded environment; for Red rounds, the lethal area per round versus whatever Blue towed 155-mm system is played at 10 range values in a wooded environment
15.	AL(J), J = 141, 150	Lethal area per round versus truck target at 10 range values for a wooded environment; for Red rounds, the lethal area per round versus whatever Blue self-propelled, armored 155-mm system is played at 10 range values in a wooded environment

TABLE 3-11. Lethal Area Data Cards for HE Rounds (Card Type 31)
-- Contd.

16.	AL(J), J = 151, 160	Lethal area per round versus artillery tube target at 10 range values for a wooded environment; for Red rounds, the lethal area per round versus a Blue self-propelled, unarmored 8-inch or 175-mm system (whichever is played) at 10 range values in a wooded environment
17.	AL(J), J = 161, 170	Lethal area per round versus radar target at 10 range values for a wooded environ- ment; for Red rounds, the lethal area per round versus a Blue missile or rocket launcher (whichever is played) at 10 range values in a wooded environment
18.	AL(J), J = 171, 180	Lethal area per round versus missile launcher target at 10 range values for a wooded environment; leave blank for Red rounds
19.	AL(J), J = 181, 190	Lethal area per round versus personnel standing target at 10 range values for a town environment
20.	AL(J), J = 191, 200	Lethal area per round versus personnel prone target at 10 range values for a town environment
21.	AL(J), J = 201, 210	Lethal area per round versus personnel crouching target at 10 range values for a town environment
22.	AL(J), J = 211, 220	Lethal area per round versus tank target at 10 range values for a town environment; for Red rounds, the lethal area per round versus whatever Blue 105-mm system is played at 10 range values in a town environment
23.	AL(J), J = 221, 230	Lethal area per round versus APC target at 10 range values for a town environment; for Red rounds, the lethal area per round versus whatever Blue towed 155-mm system is played at 10 range values in a town environment

TABLE 3-11. Lethal Area Data Cards for HE Rounds (Card Type 31)
-- Contd.

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24.	AL(J), J = 231, 240	Lethal area per round versus truck target at 10 range values for a town environment; for Red rounds, the lethal area per round versus whatever Blue self-propelled, armored 155-mm system is played at 10 range values in a town environment
25.	AL(J), J = 241, 250	Lethal area per round versus artillery tube target at 10 range values for a town environment; for Red rounds, the lethal area per round versus a Blue self-propelled, unarmored 8-inch or 175-mm system (whichever is played) at 10 range values in a town environment
26.	AL(J), J = 251, 260	Lethal area per round versus radar target at 10 range values for a town environment; for Red rounds, the lethal area per round versus a Blue missile or rocket launcher (whichever is played) at 10 range values in a town environment
27.	AL(J), J = 261, 270	Lethal area per round versus missile launcher target at 10 range values for a town environment; leave blank for Red rounds
28.	AL(J), J = 271, 280	Lethal area per round versus personnel standing target at 10 range values for a grassy environment
29.	AL(J), J = 281, 290	Lethal area per round versus personnel prone target at 10 range values for a grassy environment
30.	AL(J), J = 291, 300	Lethal area per round versus personnel crouching target at 10 range values for a grassy environment

TABLE 3-11. Lethal Area Data Cards for HE Rounds (Card Type 31)
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31.	AL(J), J = 301, 310	Lethal area per round versus tank target at 10 range values for a grassy environment; for Red rounds, the lethal area per round versus whatever Blue 105-mm system is played at 10 range values in a grassy environment
32.	AL(J), J = 311, 320	Lethal area per round versus APC target at 10 range values for a grassy environment; for Red rounds, the lethal area per round versus whatever Blue towed 155-mm system is played at 10 range values in a grassy environment
33.	AL(J), J = 321, 330	Lethal area per round versus truck target at 10 range values for a grassy environment; for Red rounds, the lethal area per round versus whatever Blue self-propelled, armored 155-mm system is played at 10 range values in a grassy environment
34.	AL(J), J = 331, 340	Lethal area per round versus artillery tube target at 10 range values for a grassy environment; for Red rounds, the lethal area per round versus a Blue self-propelled, unarmored 8-inch or 175-mm system (whichever is played) at 10 range values in a grassy environment
35.	AL(J), J = 341, 350	Lethal area per round versus radar target at 10 range values for a grassy environment; for Red rounds, the lethal area per round versus a Blue missile or rocket launcher (whichever is played) at 10 range values in a grassy environment
36.	AL(J), J = 351, 360	Lethal area per round versus missile launcher target at 10 range values for a grassy environment; leave blank for Red rounds

								-			Card:	32	
Card: 32	A B C D E F G C TO TO E P G C TO TO THE CONTRACTION OF THE CONTRACTION OF THE CONTRACTION OF THE PERSON OF THE PER	Description	Slope for radius of effects plot	y-intercept of radius of effects plot	Submissile reliability in an open environment	Submissile reliability in a wooded environment	Submissile reliability in a town environment	Submissile reliability in a grassy environment	Number of submissiles per round	NOTE: Each time an ICM round is specified on card type 29, a card of this type is required. It must be preceded by a type 30d card.			
	D स्योज्य अभी ग्राम्थ	Columns	1-8	91-6	17-24	25-32	33-40	41-48	49-56				
	C Sepanjarana	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2				
	B Selenizinsersherr	Units	meters per kilo- meters	meters	!	!	! !	!					
ICM ROUND DATA	A A 2 3 4 5 5 7	Parameter	SRE	Z∃ä	SRO	SRW	SRT	SRG	ā				
ICM		10	<	ಣ	ပ	0	LL.J	Li-	5				

	1		Card: 33
			Logid. 33
HAL AREAS IN OPEN ENVIRONMENT A B C D E F G H I I I I I I I I I I I I I I I I I I	Description	Lethal area per submissile for missile launcher target in an open environment NOTE: A card of this type is required whenever an ICM round is specified on card type 29. It must be preceded by a type 32 card.	
TN. G e sales es ado	Columns	65-72	
ENV I RONMENT C C Isha 20 aliz 20 aliz 25 at 25	Format	F8.2	
AS IN OPEN B B	Units	meters ²	
ICM LETHAL AREAS	Parameter	AL (9)	- 4
IC	ΩI		

	·	T							(ard:	34	
Card: 34	C D E F F G H II	Description	Lethal area per submissile for standing personnel target in wooded environment	Lethal area per submissile for prone personnel target in wooded environment	Lethal area per submissile for crouching person- nel target in wooded environment	Lethal area per submissile for tank target in wooded environment	Lethal area per submissile for APC target in wooded environment	Lethal area per submissile for truck target in wooded environment	Lethal area per submissile for artillery tube target in wooded environment	Lethal area per submissile for radar target in wooded environment		
MENT	D 27/28 22 30/31 32 33/34 3	Columns	1-8	9-16	17-24	25-32	33-40	41-48	49-56	57-64		
D ENVIRONMENT	C C 18 20 21 22 22 22 25 26	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2		
IS IN WOODE	A B Selve spenizionisismi	Units	meters ²	meters ²	meters ²	meters ²	meters ²	meters ²	meters ²	meters ²		
ICM LETHAL AREAS IN WOODED	1 2 3 4 5 6/7	Parameter	AL(10)	AL(11)	AL (12)	AL (13)	AL(14)	AL (15)	AL(16)	AL(17)		
ICM		ID	А	8	ပ	Ω	Ш	LL.	ڻ ت	I		

() Platniškimi	neer electules extra					Card:	34
Card: 34	A B C D E F G H I I	Description	Lethal area per submissile for missile launcher target in wooded environment	NOTE: A card of this type is required whenever an ICM round is specified on card type 29, and NEV > 2 is specified on card type 12. It must be preceded by a type 33 card.			
MENT	D स्टेस्ट इट स्क्रीय अञ्जन	Columns	65-72				
D ENVIRONMENT	C 18/19 20 21/22 23 24/25 25	Format	F8.2				
AS IN WOODED	B B ho 11 12/13 14 15/16/77	Units	meters ²				·
LETHAL AREAS	A 1 2 3 4 5 6 7 1	Parameter	AL(18)				
ICM		10	—				

	·									Card:	35
Card: 35	C D E F G H I	Description	Lethal area per submissile for standing personnel target in town environment	Lethal area per submissile for prone personnel target in town environment	Lethal area per submissile for crouching person- nel target in town environment	Lethal area per submissile for tank target in town environment	Lethal area per submissile for APC target in town environment	Lethal area per submissile for truck target in town environment	Lethal area per submissile for artillery tube target in town environment	Lethal area per submissile for radar target in town environment	
IN	D szekossekoszeko	Columns	1-8	91-6	17-24	25-32	33-40	41-48	49-56	57-64	
ENVIRONMENT	C 18/19 20 21/22 22 24/58 24	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	
	A B 1.2.3[4.5.6]7.8 9[011.12]13141316[7.18	Units	meters ²	meters ²	meters ²	meters ²	meters ²	meters ²	meters ²	meters ²	
ICM LETHAL AREAS IN TOWN	A 123/456/78	Parameter	AL (19)	AL (20)	AL(21)	AL(22)	AL(23)	AL (24)	AL(25)	AL(26)	
ICM		ID	A	മ	ပ	۵	ш	ഥ	G	Ξ	

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					Card: 35
Card: 35	A B C D E F G H III I I I I I I I I I I I I I I I I	Description	Lethal area per submissile for missile launcher target in town environment	NOTE: A card of this type is required whenever an ICM round is specified on card type 29, and NEV ≥ 3 is specified on card type 12. It must be preceded by a type 34 card.	
TNE	D Szipezszeki szeke	Columns	65-72		
ENVIRONMENT	C weenzinan	Format	F8.2		
AS IN TOWN	B s s from references	Units	meters ²		
ICM LETHAL AREAS	A 1 2 3 4 5 5 7 1	Parameter	AL(27)		
IC		ID	Н		

					-					Card:	36	
Card: 36	A B C D E F G H I I I I I I I I I I I I I I I I I I	Description	area per submissile for standing personnel in grassy environment	area per submissile for prone personnel in grassy environment	Lethal area per submissile for crouching person- nel target in grassy environment	area per submissile for tank target in environment	area per submissile for APC target in environment	area per submissile for truck target in environment	area per submissile for artillery tube in grassy environment	Lethal area per submissile for radar target in grassy environment		
	E F G G G G G G G G G G G G G G G G G G	De	Lethal area per submissile for target in grassy environment	Lethal area per submissile for target in grassy environment	Lethal area per submissile for c nel target in grassy environment	Lethal area per subm grassy environment	Lethal area per subm grassy environment	Lethal area per subm grassy environment	Lethal area per submissile for target in grassy environment	Lethal area per subm in grassy environmen		
NMENT	D rs 27/28 29 30/31 32 33/3	Columns	1-8	91-6	17-24	25-32	33-40	41-48	49-56	57-64		
SY ENVIRONMENT	C 16/19 20 21/22 23 24/25	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2		
AS IN GRAS	B B fiett izlistetsfietz	Units	meters ²	meters ²	meters ²	meters ²	meters ²	meters ²	meters ²	meters ²		
ICM LETHAL AREAS IN GRASSY	A 1 2 3 4 5 6 7	Parameter	AL (28)	AL(29)	AL(30)	AL(31)	AL (32)	AL (33)	AL(34)	AL (35)		
IC		QI	A	മ	ပ	۵	ш	ட	5	=		

Card: 36	
HAL AREAS IN GRASSY ENVIRONMENT A B C D E F G H I I I I I I I I I I I I I I I I I I	
Columns 65-72	
SY ENVIRONMENT C D Format Colu	
AS IN GRASSY By the state of t	
SE 7	
ICM LETHAL AREAS 1 2 3 4 5 6 7 6 9 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	

	·					Card: 37	
ND Card: 37	A १ ३ है। १ ७ क्षुका प्रविद्या सम्बद्ध स्थापन	Description	Number of interpolation points for CLGP data (current maximum value of 15)	NOTE: A card of this type is required whenever a CLGP round is specified on card type 29. It must be preceded by a type 29 card specifying this round type.			
FOR CLGP ROUND	27/28 29 30/31 32 33/34 3	Columns	1-5				
POINTS FOR	87 52 <mark>42 53 52 12 83 64</mark> 8	Format	15				
OF INTERPOLATION P	1.2151112 21110 6.8	Units	:				
NUMBER OF INTER	1 2 3 4 5 6 7 1	Parameter	NIP				
NU		ID	A				

ation ation ation lable interva lable rilable rilable son a ds type sype 40 st be st be	
ation ation ation lable ilable itable tilable tilable sype 40 st be	
meter Units Format Columns (J) minutes F8.2 1-8 Time available to fire CLGP (j th interpolation point) (J) F8.2 17-24 Number of CLGP's fired within time available interval based on 2 tubes (j th interpolation point) (J) F8.2 25-32 Number of fanks destroyed within time available interval (j th interval diff interval destroyed within time available interval (j th interval destroyed within time available interval (j th interval diff interpolation point) (J) F8.2 25-32 Number of fanks destroyed within time available interval (j th interval diff interpolation point) (J) F8.2 33-40 Number of functs destroyed within time available interval (j th interval diff interpolation point) (J) F8.2 33-40 Number of functs destroyed within time available interval (j th interval diff interpolation point) (J) F8.2 33-40 Number of functs destroyed within time available interval (j th interval diff interpolation point) (J) F8.2 33-40 Number of functs destroyed within time available interval (j th interval diff interpolation point) (J) F8.2 33-40 Number of functs destroyed within time available interval (j th interval diff interpolation point) (J) F8.2 33-40 Number of functs destroyed within time available interval (j th interval diff interval of this type is determined by the value of NIP specified on a card type 37, which must precede these cards (l th cards maximm). The last card of this type 38 set must be gard, in that order. Cards of this set must be gard, in that order. Cards of this set must be gard. Set must be followed by a type 39 and type 40 card, in that order. Cards of this set must be gard.	
D D D D D D D D D D D D D D D D D D D	
C. 2 F8.2 F8.2 F8.2 F8.2	
Units Units minutes	
CLGP DATA 1.3 4.5 1.4 D Parameter A TFK(J) C VKI(J) VK2(J) E VK3(J)	
C C C C E	

										Card:	39
Card: 39	A B C D E F G H I I I J	Description	First range value for range versus EFC table for ith round type	Second range value for range versus EFC table for ith round type	Third range value for range versus EFC table for ith round type	Fourth range value for range versus EFC table for ith round type	Fifth range value for range versus EFC table for ith round type	Sixth range value for range versus EFC table for ith round type	Seventh range value for range versus EFC table for i th round type	Eighth range value for range versus EFC table for ith round type	
	D E 23 20 20 20 20 20 20 20 20 20 20 20 20 20	Columns	1-8	91-6	17-24	25-32	33-40	41-48	49-56	57-64	
	C 18/19 20 21/22 23 24/25 26 2	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	
JES	B 8 9 10 11 12 13 14 15 16 17	Units	kilo- meters	kilo- meters	kilo- meters	kilo- meters	kilo- meters	kilo- meters	kilo- meters	kilo- meters	
CLGP RANGE VALUES	A 1 2 3 4 5 6 7 1	Parameter	RG(I,1)	RG(I,2)	RG(I,3)	RG(I,4)	RG(I,5)	RG(I,6)	RG(I,7)	RG(I,8)	
CL		ID	A	8	ပ	Ω	ш	LL	G	工	

						·		C	ard:	39	
Card: 39	A B C D E F G H I TITUTE TO THE STATES SET 20 THE STATES SET 20 S	Description	Ninth range value for range versus EFC table for ith round type	Tenth range value for range versus EFC table for ith round type	NOTE: A Card of this type must follow a set of type 38 cards whenever a CLGP round is specified on card type 29.						
	1 2 2 3 3 3 2 3 3 3 3 3 3 3 3 3 3 3 3 3	Columns	65-72	73-80							
	C 18 19 20 21 22 23 2425 26	Format	F8.2	F8.2							
JES	B s from square is from	Units	kilo- meters	kilo- meters							
RA	A 123/4567	Parameter	RG(I,9)	RG(I,10)							
CLGP		11	 	ה							

									a)	Card:	40
(CLGP) Card: 40	A B C I D E F G H I I I I J I I I I I I I I I I I I I I	Description	Equival ent full charge value at first range value for ith round type	Equivalent full charge value at second range value for i th round type	Equivalent full charge value at third range value for i th round type	Equivalent full charge value at fourth range value for ith round type	Equival ent full charge value at fifth range value for i th round type	Equival ent full charge value a t sixth range value for ith round type	Equivalent full charge value at seventh range value for i th round type	Equivalent full charge value at eighth range value for ith round type	
VALUE	E sadoraendae		Equi	Equ'i for	Equi for	Equi for	Equi for	Equi	Equi for	Equ' valu	
UE AT EACH RANGE VALUE (CLGP)	D 5 27 pt 25 30[2] 32 32 43 4	Columns	1-8	91-6	17-24	25-32	33-40	41-48	49-56	57-64	
ALUE AT E	C 10 19 20 21 22 23 2425 21	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	
CHARGE V	B Sponskarsker	Units	!	}	}	}	8 1 1		-	<u> </u>	
EQUIVALENT FULL CHARGE VAL	1 2 3 4 5 6 7 1	Parameter	СНG(І,1)	CHG(I,2)	CHG(I,3)	CHG(I,4)	CHG(I,5)	CHG(I,6)	CHG(I,7)	CHG(I,8)	
EQU		QI	A	8	ပ	Ω	ш	LL.,	ŋ	王	

	,	,								
								Card	: 40	
Card: 40	I J	tion	lue at ninth range	ue at tenth range	must follow a CLGP round 29.					
EACH RANGE VALUE (CLGP)	A B C D E F G H I I I J	Description	Equivalent full charge value at ninth range value for i th round type	Equivalent full charge value at tenth range value for ith round type	NOTE: A card of this type must follow each type 39 card whenever a CLGP round is specified on card type 29.					
ACH RANGE	D entre en man manum	Columns	65-72	73-80						
UE AT	C THB 70 27 22 22 25 2	Format	F8.2	F8.2						
CHARGE V	B sponstanesten	Units	-	.1						
EQUIVALENT FULL CHARGE VAL	A 1 2 3 4 5 6 7 8	Parameter	CHG(I,9)	CHG(I,10)		A	•			
EQL		£	Н	ט						

Parameter Units Format Columns Description A NEW 15 1-5 Current maximum value of 11)				Card: 41
MBER OF BLUE ARTILLERY BATTALIONS 1.3 (1.5 d) 1	1 1	14 columnia 12 12 12 13 10 10 10 10 10 10 10 10 10 10 10 10 10		ons in the game
MBER NBN		स्त्रीय अन्य प्रतिक स्था प्रतिक स्था प्रतिक स्था अधिक स्था है। इस इस्ट्रेड इस इस्ट्रेड स्था स्वीत स्था प्रतिक स	Description	Number of Blue artillery battali (current maximum value of 11)
MBER NBN	IS	27 26 29 30 31 32 3334	Columns	1-5
MBER NBN	BATTALION	n en en en en en en en en	Format	15
MBER NBN	ARTILLERY	o sten ritz a sten	Units	
N I I D		A 1 2 3 4 5 6 7	Parameter	NBN
	NUM		ΙD	V

	4.0
Card:	42
A B C D E E G H I J K L M N O P D D D D D D D D D	or type 44 card. The firs must be for the Division by d card of this type must be
F G G of lumns Columns 1-5 6-10 11-15 . 71-75 76-80	
D E E Inherophyzazatysh Format I S A S A S A S A S A S A S A S A S A S	
A B C C C C C C C C C	
IDENTIFICAT Parameter NSITEF(I) NB BNXID(1)	
FDC 1DE C BNX C BNX C BNX C BNX C BNX	1

	·							Card:	43
Card: 43	1457 12 50 79 79 74 75 15 15 17 78 79 00		t of ith FDC	ement of ith FDC	t of i th FPC	t of ith FPC	this type may sion FDC units. s based on the n card type 42. ceded by a type 42 cards is required n FDCs.		
	C D 1922 22 2425 26 21/pe 23 34/pi 12 <u>1342, 35 34/pi 30 34 40 44 24/pi 47 24/pi 50 54/</u> pi 50 34/pi 56 34/pi 56 34/pi 56 34/pi 20	Description	Arrival time at j th emplacement of i th	Departure time from j th emplacement of	x-coordinate of j th emplacement of i th	y-coordinate of j th emplacement of i th FPC	NOTE: As many as 10 cards of this type may be required for Group and Division FDC units. The number of cards required is based on the value of NSITEF(I) specified on card type 42. This data type set must be preceded by a type 42 card. A set of this type data cards is required for both the Group and Division FDCs.		
/ISION)	D 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Columns	8-	91-6	17-24	25-32		****	
OUP OR DIVISION)	C 18 19 20 21 22 23 24 25 21	Format	F8.2	F8.2	F8.2	F8.2			
T DATA (GRO	A B S 1 2 3 4 5 2 1 10 10 10 10 10 10 10 10 10 10 10 10 1	Units	minutes	minutes	kilo- meters	kilo- meters			
FDC EMPLACEMENT DATA (GROU	1 2 3 4 5 6 7 1	Parameter	TAF(J,I)	TDF(J,I)	XSF(J,I)	YSF(J,I)			
FD		ID	A	മ	ပ	٥			

Card: 44	E F G H I J K L M N O CONTROL STATES AND AN AND AN AND AN AND AN AND AN AND AN AND AN AND AN AND AN AND AN AND AN AND AN AND AND	Description	Number of emplacements for i th friendly battery	*	,		Alphanimoric decraintion of ith					NOTE: Each card of this type must be preceded by a type 45 card and followed by a type 45 card. The maximum number of cards of this type is currently fixed at 33.
	H I I I I I I I I I I I I I I I I I I I		Number of empla	Must be left blank			Alphanimeric des	Blue battery				NOTE: Each card of this by a type 42 card and fol card. The maximum number is currently fixed at 33.
ATA	F G	Columns	-1-5	01-9	11-15	16-20		•	•	02-99	71-75	
ICATION D	D E	Format	15	15	A5	A5	•		•	A5	A5	
RY IDENTIF	C C	Units		# #	!!	!	•	•	•	-	<u> </u>	
FRIENDLY BATTERY IDENTIFICATION DATA	A B	Parameter	NSITE(I)	BNXID(1)	BNXID(2)	BNXID(3)			•	BNXID(13)	BNXID(14)	
FR		QI	٧	Ω	ပ	۵	•	•	•	z	0	

	•					Card:	45
Card: 45	A १ ट ३ व ८ ७ १ १ ७ १ १० १ १ १ १ १ १ १ १ १ १ १ १ १	Description	Identification number of i th Blue battery (matches SYSID of this battery's weapon system)	NOTE: Each card of this type must be preceded by a type 44 card and followed by a set of type 46 cards. The maximum number of cards of this type is currently fixed at 33.			
	5 27 28 30 32 32 33 34 34 34 34 34 34 34 34 34 34 34 34	Columns	1-8				
IMBER	12 52 52 52 52 54 51 51 51 51 51 51 51 51 51 51 51 51 51	Format	F8.2				
IDENTIFICATION NUMBER	1 5 10 11 12 13 14 15 14 15	Units					
BATTERY IDENTIF	A 1 2 3 4 5 6 7 8	Parameter	BRYID(I)				
BAT		ID	A				

									Card:	46	
Card: 46	A B C D E E 1.2 3/4 5 6/7 8 9/10 m militare militare and practice consistence and practice consi	Description	Time of arrival at j th emplacement of ith Blue battery	Time of departure from j th emplacement for ith Blue battery	x-coordinate of j th emplacement for ith Blue battery	y-coordinate of j th emplacement for ith Blue battery	Distance from FEBA of j th emplacement for ith Blue battery (recalculated in program and may be left blank on card)	NOTE: A set (10 cards maximum) must follow each type 45 card of the input data deck. The maximum number of sets of this type card is currently fixed at 33.			
Ŧ	E E	Columns			17-24 x- B1	25-32 y-	33-40 Di it	NO ea Th Ca	,	***************************************	
T DAT	D 5 25 27 28 28 38	Colu	1-8	9-16	17-	25-	33-				
PLACEMENT	C Tulis 20 21/22 23 2425	Format	F8.2	F8.2	F8.2	F8.2	F8.2				
TTALION EM	B B shorrestaters	Units	minutes	minutes	kilo- meters	kilo- meters	kilo- meters				
BATTERY AND BATTALION EMPLACEMENT DATA	A 1 2 3 4 5 6 7	Parameter	TA(J,I)	TD(J,I)	XS(J,I)	YS(J,I)	DЕРТН(J,I)				
BA]	ID	А	8	ပ	Ω	Ш				

								Card: 47
Card: 47	E 1982 22 24 25 25 25 25 25 25 25 25 25 25 25 25 25	Description	Posture identification number	Number of round types allowed for j th posture in an open environment	Number of round types allowed for jth posture in a wooded environment	Number of round types allowed for jth posture in a town environment (=0 if NEV <3)	Number of round types allowed for j^{th} posture in a grassy environment (=0 if NEV = 3)	NOTE: The maximum number of cards of this type is 10, one card for each of the 10 estimated postures in the game. Each card of this type must be followed by from one to five type 48 cards, depending upon the value of NRO(J) entered in columns 6-10 of this card. For personnel postures NRO = NRW = NRT = NRG = 1. The program ignores these values, but it is necessary to read in at least one round type for each environment and personnel posture.
	ent at light at soft a	Columns	1-5	01-9	11-15	16-20	21-25	
_	D E	Format	15	15	15	15	15	
IDS PER ENVIRONMENT	A B C D	Units		1	!	-	1	
ROUND IDS PER I	A B	Parameter	NP	NRO(J)	NRW(J)	NRT(J)	NRG(J)	
80		ID	A	ω	ပ	0	ш	

	1								1	Cand.	/10	
RONMENT Card: 48	A B C D E F G H I I J	Description	First round ID for an open environment for j th posture	Second round ID for an open environment for jth posture	Third round ID for an open environment for j th posture	Fourth round ID for an open environment for jth posture	Fifth round ID for an open environment for jth posture	Sixth round ID for an open environment for j th posture	Seventh round ID for an open environment for j th posture	Eighth round ID for an open environment for j th a posture	48	
OPEN ENVIRONMENT	D czelene za nejmen zapo	Columns	1-8	9-16	17-24	25-32	33-40	41-48	49-56	57-64		
FOR AN	C Re 20 21/22 23 24/25 24	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2		
FOR J th POSTURE	B B s hen rationa ration	Units	 	. ;	!	!	1	!	1 1	-		
IDS	1234567	Parameter	ORVM(1,J)	ORVM(2,J)	ORVM(3,J)	ORVM(4,J)	ORVM(5,J)	ORVM(6,J)	ORVM(7,J)	ORVM(8,J)		
ROUND		1D	<	8	ပ	0	ш	Li.	9	Ξ		

					Card: 48
ONMENT Card: 48	C D E F G H I O	Description	Ninth round ID for an open environment for jth posture	Tenth round ID for an open environment for j th posture	NOTE: 10 < NRO(J) ≤ 20, one additional card required; 20 < NRO(J) ≤ 30, two additional cards required; 30 < NRO(J) ≤ 40, three additional cards required; 40 < NRO(J) ≤ 45, four additional cards required. Ten sets of this type card are required; one for each posture type. The first card of each set of this type must be preceded by a type 47 card, and the last card of each set must be followed by a type 49 card. For personnel postures, a single card with one round ID (any round) will suffice.
OPEN ENVIRONMENT	D 27/28 23 30/31 323/34	Columns	65-72	73-80	
FOR AN	C C 10 20 20 20 20 20 20 20 20 20 20 20 20 20	Format	F8.2	F8.2	
IDS FOR J th POSTURE	A B B B B B B B B B B B B B B B B B B B	Units	l I	. 1	
ROUND IDS FOR J	A 1 2 3 4 5 6 7 8	Parameter	ORVM(9,J)	ORVM(10,J)	
ROL		ID	Ι		

		т							 	•		
			j							Card	49	
ENVIRONMENT Card: 49	A B C D E F G H I I I J	Description	First round ID for a wooded environment for jth posture	Second round ID for a wooded environment for jth posture				Ninth round ID for a wooded environment for j th posture				
A WOODED ENVI	D Carlor 25 adrs 2	Columns	1-8	91-6	•	•	٠	65-72				
FOR A WC	C C	Format	F8.2	F8.2	•	٠	•	F8.2				
th POSTURE	B s ferrigizieishen	Units			•	•	•	i i				
ROUND IDS FOR J th POSTURE FOR	A 1 2 3 4 5 6 7	Parameter	WRVM(1,J)	WRVM(2,J)	•	•	•	WRVM(9,J)				
ROU		ID	A	8				Н				

ROUND IDS FOR J th POSTURE FOR A WOODED ENVIRONMENT 1.1/1.4			7	
DUND IDS FOR J th POSTURE FOR A WOODED ENVIRONMEN 1 2 4 5 1 1 1 1 1 2 3 4 5 1 1 1 1 1 3 4 5 1 1 1 1 1 1 1 1 1				Card: 49
MRVM(10,J)	IRONMENT Card: 49	Sastinacidade esta esta esta esta esta esta esta est	Tenth round ID for a wooded environment for jth posture NOTE: 10 < NRW(J) ≤ 20, one additional card required; 20 < NRW(J) ≤ 30, two additional cards required; 30 < NRW(J) ≤ 40, three additional cards required; 40 < NRW(J) ≤ 45, four additional cards required. Ten sets of this type card are required, one for each posture type. The first card of each set of this type must be preceded by the last card of each type 48 set. If NEV ≤ 3, the last card of each type 49 set must be followed by a type 50 card. For personnel postures, a single card with any round ID will suffice.	
MRVM(10,J)	DODED ENV	corporate orbital	73-80	
Pare WRV		infly 2021/22324252 Format	F8.2	
Pare WRV	jth POSTUR	Units	 	
OS L	JND IDS FOR S	Parameter	WRVM(10,J)	

	. •		ture					posture	Card: 50	
Card: 50	1 J S 12 12 12 12 12 12 12 12 12 12 12 12 12		nment for j th pos	onment for j th					·	
	A B C D E F G A Service in the contraction of the second contraction o	Description	First round ID for a town environment for j th posture	Second round ID for a town environment for j th posture				Ninth round ID for a town environment for j th		
ONMENT	E F	·	First roun	Second rou posture	•			Ninth roun		
TOWN ENVIRONMENT	D	Columns	1-8	9-16	•	•	•	65-72		
FOR A	C rafts 78 27 22 24 25 5	Format	F8.2	F8.2	6	•	•	F8.2		
J th POSTUR	B shorrsham	Units	 - 		•	•	à	<u> </u>		
ROUND IDS FOR J th POSTURE	1 2 3 4 5 5 T	Parameter	TRVM(1,J)	TRVM(2,J)	•	•	•	TRVM(9,J)		
RO		ID	A	മ	•	•	٠	Н		

FOR A TOWN ENVIRONMENT County County Format Columns Format	
MMENT Tenth round ID f Tenth round ID f required; 30 < NRT(required; 30 < NRT(required; 40 < NRT(required; 50 < NRT(req	
FOR A TOWN ENVIRONMENT Cornact Columns F8.2 73-80 Tent NOTE	
Format F8.2	
DS FOR J th POSTURE A B B B B B B B B B B B B B B B B B B	
ROUND IDS FOR J th POSTURE 1.2.14.5. 7.1.5 pm.ndisusquare Parameter Units TRVM(10,J)	
A L L L L L L L L L L L L L L L L L L L	

	-	2							
ENVIRONMENT Card: 51	A B C D E F G H I I I J	Description	First round ID for a grassy environment for j th posture	Second round ID for a grassy environment for j th posture				Ninth round ID for a grassy environment for j th posture	Card: 5]
GRASSY EN	D 5 27 28 23 30 32 32 32 32 32 32 32 32 32 32 32 32 32	Columins	1-8	9-16	•			65-72	
RE FOR A (. C 1892 2021 2023 2045 20	Format	F8.2	F8.2	•	•	•	F8.2	
J th POSTURE	B s s loon reprises represent	Units	!	!	•		•	!	
ROUND IDS FOR J th	1 2 3 4 5 6 7	Parameter	GRVM(1,J)	GRVM(2,J)	•	•		GRVM(9,J)	
8	ł	CI	A			•	•	<u> </u>	

				•	Card: 51
NMENT Card: 51	C D E F G H I J	Description	Tenth round ID for a grassy environment for j th posture	NOTE: 10 < NRG(J) < 20, one additional card required; 20 < NRG(J) < 30, two additional cards required; 30 < NRG(J) < 40, three additional cards required; 40 < NRG(J) < 45, four additional cards required; Ten sets of this type card are required, one for each posture type, only when NEV = 4. The first card of each set of this type must be preceded by the last card of a type 50 set. For personnel postures, a single card with any round ID will suffice.	
FOR A GRASSY ENVIRONMENT	E 30 31 32 33 34 35 36 3	Columns	73-80 Te	Ž	
GRAS	D saszka:	္ပ	7		
	C C The market and	Format	F8.2		
IDS FOR J th POSTURE	A B B B B B B B B B B B B B B B B B B B	Units			
ROUND IDS FOR	A 1 2 3 4 5 6 7	Parameter	GRVM(10,J)		
RO		QI	D.		

Card: 52	C D E F G H I I I I I I I I I I I I I I I I I I	Description	x-coordinate of first point on Scenario 3 boundary	x-coordinate of second point on Scenario 3 boundary	x-coordinate of third point on Scenario 3 boundary	x-coordinate of fourth point on Scenario 3 boundary	x-coordinate of fifth point on Scenario 3 boundary	x-coordinate of sixth point on Scenario 3 boundary	x-coordinate of seventh point on Scenario 3 boundary	x-coordinate of eighth point on Scenario 3 boundary	x-coordinate of ninth point on Scenario 3 boundary	NOTE: This type card is required only when the value of SCENAR \$\neq 2.0 \text{ or } \neq 4.0 as entered on card type 2. If the value of NEV, as read from card type 12, =2, this card follows the last type 49 card; if NEV = 3, it follows the last type 50 card; if NEV = 4, it follows the last type 51 card. Whenever this card is present, it is always followed by a type 53 card.
	E F F F F F F F F F F F F F F F F F F F		x-coordinate of	x-coordinate of	x-coordinate of	x-coordinate of	x-coordinate of	x-coordinate of	x-coordinate of	x-coordinate of	x-coordinate of	NOTE: This type card value of SCENAR #2.0 type 2. If the value type 12, =2, this car card; if NEV = 3, it card; if NEV = 4, it card. Whenever this always followed by a
ATES	D S zajes sa sepi zajes	Columns	1-8	9-16	17-24	25-32	33-40	41-48	49-56	57-64	65-72	
X-COORDINATES	C Ulib 20 21/22 23 2425 2	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	
	A B B 12 3 4 5 6 17 6 9 10 11 12 13 14 15 16 17 10	Units	kilometers	kilometers	kilometers	kilometers	kilometers	kilometers	kilometers	kilometers	kilometers	
SCENARIO 3 BOUNDARY	A 1 2 3 4 5 6 7	Parameter	BNDX(1)	BNDX(2)	BNDX(3)	BNDX(4)	BNDX(5)	BNDX(6)	BNDX(7)	BNDX(8)	BNDX(9)	
		ΩI	A	£	ပ	Ω	Ш	<u>LL</u>	G	王	Н	

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 26 29 30 31 32 32 34	O O	0	_		>	
ID	Parameter	Units	Format	Columns	h อาปอกอยุรถาปุการสุดาสุดเล่น เล่น เล่น เล่น เล่น แล้น แล้น แล้น แล้น แล้น แล้น แล้น แล้	
А	BNDY(1)	kilometers	F8.2	1-8	y-coordinate of first point on Scenario 3 boundary	
മ	BNDY(2)	kilometers	F8.2	9-16	y-coordinate of second point on Scenario 3 boundary	>
ပ	BNDY(3)	kilometers	F8.2	17-24	y-coordinate of third point on Scenario 3 boundary	
۵	BNDY(4)	kilometers	F8.2	25-32	y-coordinate of fourth point on Scenario 3 boundary	>
LЦ	BNDY(5)	kilometers	F8.2	33-40	y-coordinate of fifth point on Scenario 3 boundary	
U_	BNDY(6)	kilometers	F8.2	41-48	y-coordinate of sixth point on Scenario 3 boundary	
5	BNDY(7)	kilometers	F8.2	49-56	y-coordinate of seventh point on Scenario 3 boundary	ry
=	BNDY(8)	kilometers	F8.2	57-64	y-coordinate of eighth point on Scenario 3 boundary	
-	BNDY(9)	kilometers	F8.2	64-72	y-coordinate of ninth point on Scenario 3 boundary	
					NOTE: This type card is required only when a type 52 card is also required, and it appears immediately after the type 52 card. Whenever this card is present, it is always followed by a type 54 card.	Card:
						53

1		т	r					
						:	Card:	54
Card: 54	844 m. 74 m. 24 m. 25 m. 77 m. 19 m.		ce line segments		ed, it is If a type 53 Ie of NEV from is the last I follows the s card follows followed by a			
	A 123/45/6/749/phidjanighenipemat aandanapaantanataana nganatanaganatanaganatasasissasissasinatan ananatanananana ma	Description	Number of end points for FEBA trace line segments (maximum value of 10)	Number of FEBA traces (maximum value of 10)	NOTE: If a type 53 card is required, it is always followed by this type card. If a type 53 card is not required, and the value of NEV from card type 12 = 2, this card follows the last type 49 card; if NEV = 3 this card follows the last type 50 card; if NEV = 4, this card follows the last type 51 card. It must be followed by a type 55 card.			
ES	18 27 Je 23 July 32 33 34	Columns	1-5	6-10				
FEBA TRACES	nle majaraskr	Format	15	15				
	B septematerenter	Units						
NUMBER OF ENDPOINTS AND	A 1 2 3 4 5 6 7	Parameter	NPS	NFT				
Í Í	t		A	В				

													Card: 55
Card: 55	C D E F G H I J	Description	x-coordinate of first end point of jth FEBA trace	y-coordinate of first end point of j th FEBA trace	x-coordinate of second end point of j th FEBA trace	y-coordinate of second end point of j th FEBA trace	x-coordinate of third end point of j th FEBA trace	y-coordinate of third end point of j th FEBA trace	x-coordinate of fourth end point of j th FEBA trace	y-coordinate of fourth end point of j th FEBA trace	x-coordinate of fifth end point of j th FEBA trace	y-coordinate of fifth end point of j th FEBA trace	NOTE: The first card of this type must be preceded by the type 54 card. If NPS > 5 on card type 54, an additional card of this type is required for each FEBA trace. There is a maximum of 10 FEBA traces allowed, and therefore a maximum of 10 sets of type 55 cards comprised of either one or two cards per set. The last type 55 card must be followed by a type 56 card.
	D 6 2720 23 24 22 2434 3	Columns	1-8	91-6	17-24	25-32	33-40	41-48	49-56	57-64	65-72	73-80	
DINATES	C 18 19 20 21 22 23 2425 2	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	
POINT COOR	A 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	Units	kilometers	kilometers	kilometers	kilometers	kilometers	kilometers	kilometers	kilometers	kilometers	kilometers	
FEBA TRACE END POINT COORD	1 2 3 4 5 6 7	Parameter	A(1,J)	B(1,J)	A(2,J)	B(2,J)	A(3,J)	B(3,J)	A(4,J)	B(4,J)	A(5,J)	B(5,J)	
0		ID	A	В	ပ	۵	ш	ш.	5	工	H	٦	

Company (G)		ľ	T		ini da da da a da a da a da a da a da a	******							Cand. EC
													Card: 56
Card: 56	A B C D E F G H I I U J	Description	Activation time of first FEBA trace	Activation time of second FEBA trace	Activation time of third FEBA trace	Activation time of fourth FEBA trace	Activation time of fifth FEBA trace	Activation time of sixth FEBA trace	Activation time of seventh FEBA trace	Activation time of eighth FEBA trace	Activation time of ninth FEBA trace	Activation time of tenth FEBA trace	NOTE: This card must follow the last type 55 card and must precede the type 57 card.
	ी विकास अधि श्राप्तीय	Columns	1-8	91-6	17-24	25-32	33-40	41-48	49-56	57-64	65-72	73-80	
	C 11 C C C C C C C C C	Format	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	F8.2	
SACE	B ક કૃષિયા છુંછ માર્જાણ	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	
TIME OF FEBA TRACE	A 1 2 3 4 5 5 1 7	Parameter	FEBACT(1)	FEBACT(2)	FEBACT(3)	FEBACT(4)	FEBACT(5)	FEBACT(6)	FEBACT(7)	FEBACT(8)	FEBACT(9)	FEBACT(10)	
LIN		ID	A	В	ပ	Ω	LLI	i.i.	D.	I	H	٦	

					· · · · · · · · · · · · · · · · · · ·							С	ard:	57	
Card: 57	A B C D E F G F H I J K L M N N 1.2 a) 4 s s s s s s s s s s s s s s s s s s	Description	Maximum number of battalions allowed to mass fire on any one fire mission	Effects cutoff value for first posture	Effects cutoff value for second posture	•		•	Effects cutoff value for ninth posture	Effects cutoff value for tenth posture	Round type criteria flag (=1.0, cost criterion)	Defeat level	Maximum number of GSRS batteries allowed to mass fire on any one fire mission		
	7 F	Columns	1-5	6-11	12-17	·			54-59	60-65	02-99	71-75	76-80		
0	D E	Format	51	F6.4	F6.4				F6.4	F6.4	F5.3	F5.3	15		
VALUES CAR	B C	Units	1	1 1	1 1	•	•	•) (1	i	!	!		
EFFECTS CUTOFF VALUES CARD	A 1 2 3 4 5 6 7 8	Parameter	MASSLT	EC0F(1)	EC0F(2)	•	•	•	ECOF(9)	ECOF(10)	CRITRA	DF	MRKTLT		
EF		ID	А	В	ပ				רי	\times		Σ	z		

	·												C	ard:	58a		
Card: 58a	A B C D E F G H I J K L M N O P	Description	Priority of battery of battalion														
	F G	Columns	2-1	01-9	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	26-60	61-65	02-99	
) E E 18 18 18 18 18 18 18 18	Format	F5.0														
ITY VALUES	B C L	Units	1 1 1	-	!	!	-	-		-	-	1	!	!			
BATTERY PRIORITY VALUES	A 1 2 3 4 5 6 7	Parameter	FUOD(1)	FUOD(2)	FUOD(3)	FUOD(4)	FUOD(5)	FUOD(6)	FUOD(7)	FU0D(8)	FUOD(9)	FUOD(10)	FUOD(11)	FUOD(12)	FUOD(13)	FUOD(14)	
BA		ΩI	А	В	ပ	۵	ш	LL.	Ŋ	工	Н	٦	×		Σ	z	

									Card:	58a
Card: 58a	N D N Seeder as estrain 178 178 178 178 178 178 198 10		ion	ion	s follows the umber of card type 58b vise, it is	of Jth battery		teries in , $ m I) \leq 6)$		·
	E F G H I J K L M N O P P I T Start and a start as a subject to a subj	Description	Priority of battery of battalion	Priority of battery of battalion	NOTE 1: This type card always follows the type 57 card. If the total number of batteries is greater than 16, card type 58b must follow this card. Otherwise, it is followed by a type 59 card.	NOTE 2: FU OD(N) is priority of J th battery of battalion K where:	$N = J + \sum_{I=\bar{I}} NBAT(1,I)$	NBAT(1,1) = number of batteries in I th battalion (1 \leq NBAT(1,1) \leq 6)		
	H 14 35 3637 38 3940		Pric	Pric	NOTE type batt must foll	NOTE of b				
	F G	Columns	71-75	76-80						
	1 E E 20 21 22 23 24 25 20	Format	F5.0	F5.0						
TY VALUES	A B C D	Units		-						
BATTERY PRIORITY VALUES	A 1 2 3 4 5 6 7	Parameter	FUOD(15)	FUOD(16)						
BAT		ID	0	م						

				a Commercial de la grada	the state of the second	Automobile de la companya de la comp	Section of section		Charles Element	gelle i de la companya de la company			C	ard:	58b		
Card: 58b	E F G H · I J K L M N O P 2 20 21 22 22 24 25 25 27 28 29 29 23 24 25 25 24 25 25 24 25 25 25 25 25 25 25 25 25 25 25 25 25	Description	Priority of battery of battalion	Priority of battery of battalion	Priority of battery of battalion	Priority of battery of battalion	Priority of battery of battalion	Priority of battery of battalion	Priority of battery of battalion	Priority of battery of battalion	Priority of battery of battalion	Priority of battery of battalion	Priority of battery of battalion				
	F G	Columns	1-5	01-9	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	26-60	61-65	02-99	
	D E 1819 20 21 22 24 25 2	Format	F5.0	F5.0	F5.0	F5.0	F5.0	F5.0	F5.0	F5.0	F5.0	F5.0	F5.0	F5.0	F5.0	F5.0	
ITY VALUES	A B C D	Units	1		!	!	1	!	-	1	-	}	!	}	-	!	
BATTERY PRIORITY VALUES	A 1 2 3 4 5 6 7	Parameter	FUOD(17)	FUOD(18)	FUOD(19)	FUOD(20)	FUOD(21)	FUOD(22)	FUOD(23)	FUOD(24)	FUOD(25)	FUOD (26)	FUOD(27)	FUOD(28)	FUOD(29)	FUOD(30)	
B/		11	A	മ	ပ	Ω	Ш	ഥ	മ	工	Н	ن	×	٦	Σ	z	

	İ						Card: 58b
Card: 58b	A B C D E F G H I J K L M N O P	Description	Priority of battery of battalion	Priority of battery of battalion	NOTE 1: This card follows card 58a when the total number of batteries is greater than 16. If the total number of batteries is greater than 32, it is followed by card 58c. Otherwise, it is followed by a type 59 card.	NOTE 2: See NOTE 2 of card 58a.	
	F G	Columns	71-75	76-80			
	D E Isto za zatzs pe	Format	F5.0	F5.0			
PRIORITY VALUES	3 C S C S S S S S S S S S S S S S S S S	Units	-				
BATTERY PRIORIT	A E	Parameter	FUOD(31)	FUOD(32)			
BAT		ID	0	۵			

Programme of the last		The same			L. Diego B	 Page Consumer			·	
									Card:	58c
Card: 58c	E F G H I J K L M N O P TOTAL ENTER THE STATE OF THE STAT	Description	Priority of battery of battalion	Priority of battery of battalion	•	Priority of battery of battalion	NOTE 1: If total number of batteries > 48 but less than 65, one additional card of this type is required. If total number of batteries is greater than 64 but less than or equal to 66, two additional cards of this type are required. The last card of this type must be followed by a type 59 card.	NOTE 2: See NOTE 2 of card 58a.		
	F G	Columns	9-1	01-9	•	 76-80				
	O E	Format	F5.0	F5.0	•	 F5.0				Section 19 Section 1.
TITY VALUES	A B C D	Units	-	-	•	 !				
BATTERY PRIORITY VALUES	A 1 2 3 4 5 6 7	Parameter	FUOD(33)	FUOD (34)	•	 FUOD (48)				
8		QI	V.	22		۵		**************************************		

	•										Car	d: 5	9	
Card: 59	E F G H I J K L M M Salation and an analysis of second sec	. Description	Placement number of FDC laterally backing up Division FDC	Placem ent number of FDC laterally backing up Group FDC	Placement number of FDC laterally backing up first battalion FDC	Placement number of FDC laterally backing up second battalion FDC	Placement number of FDC laterally backing up third battalion FDC	Placem ent number of FDC laterally backing up fourth battalion FDC			•	Placement number of FDC laterally backing up tenth battalion FDC		
	F G S 20 23 23 23 24 2	Columns	1-5	6-10	11-15	16-20	21-25	26-30	•	•	•	26-60		
	D E 2021/22 23 24/25/21	Format	F5.0	F5.0	F5.0	F5.0	F5.0	F5.0	•	•	•	F5.0		
OF FDCS	A B C D	Units	;	-	!		-	 	•	•	•			
LATERAL BACKUP OF FDCS	A B	Parameter	FDCD(1,1)	FDCD(1,2)	FDCD(1,3)	FDCD(1,4)	FDCD(1,5)	FDCD(1,6)	•	•	•	FDCD(1,12)		
ر ا		ΩI	А	Ω	. ပ	۵	ш	Li	•	•	٠			

	THE PROPERTY AND						Card:	59	
	A B C D E F G H I J K L M TANDER TO THE STANDER STANDE	Description	Placement number of FDC laterally backing up eleventh battalion FDC	NOTE: This card follows a 58a, 58b, or 58c card as indicated. It is always followed by a type 60 card.			July 4		
	F G	Columns	61-65						
) E 	Format	F5.0						
P OF FDCS	B C E	Units	l						
LATERAL BACKUP OF	A 1 2 3 4 5 6 7 1	Parameter	FDCD(1,13)						
LA		e.	Σ						

	•		၁၀									Card:	60	
Card: 60	E F G H I J K L M	Description	Placement number of reinforcing FDC for Division FDC	Placement number of reinfo rcing FDC for Group FDC	Placement number of reinfo rcing FDC for first battalion FDC	Placement number of reinforcing FDC for second battalion FDC	Placement number of reinfor cing FDC for third battalion FDC		•	•	Placement number of reinfo rcing FDC for tenth battalion FDC	Placement number of reinfo rcing FDC for eleventh battalion FDC	NOTE: This card is always preceded by card type 59 and followed by card type 61.	
	F G	Columns	1-5	6-10	11-15	16-20	21-25	•	٠	•	26-60	61-65		
		Format	F5.0	F5.0	F5.0	F5.0	F5.0	•	•	•	F5.0	F5.0		
300	A B C D	Units	-	!	-	!	-	•	•	•	-	-		
REINFORCING FDCS	A E	Parameter	FDCD(2,1)	FDCD(2,2)	FDCD(2,3)	FDCD(2,4)	FDCD(2,5)	•	•	•	FDCD(2,12)	FDCD(2,13)		
<u> </u>		ID	А	В	ပ		لنا		•	•		Σ		

ERAL SUPF	,0K	GENERAL SUPPORT REINFORCING	ING FDCS		Card: 61
12345	1 9	B C C	D E 23 2425 2	F G	A B C D E F G H I J K L M 1.2.3/4.5/6/7.5 s their rights may be marked as a state of the state o
Parameter	,	Units	Format	Columns	Description
FDCD(3,1)		!	F5.0	1-5	Placement number of GSR FDC for Division FDC
FDCD(3,2)	_	!	F5.0	01-9	Placement number of GSR FDC for Group FDC
FDCD(3,3)	$\overline{}$	1	F5.0	11-15	Placement number of GSR FDC for first battalion FDC
FDCD(3,4)	_	-	F5.0	16-20	Placement number of GSR FDC for second battalion FDC
FDCD(3,5)		}	F5.0	21-25	Placement number of GSR FDC for third battalion FDC
•	, , , , , , , , , , , , , , , , , , ,	•	•	•	•
•		•	•		•
•		•	•	•	•
FDCD(3,12)	<u> </u>	!	F5.0	26-60	Placement number of GSR FDC for tenth battalion FDC
FDCD(3,13)	<u>~</u>	i i	F5.0	61-65	Placement number of GSR FDC for eleventh battalion FDC
					NOTE: This card is always preceded by card type 60 and followed by card type 62.
					61

											Car	d: 62		
Card: 62	A B C D E F G H I J K L M 12.3 4.5 5 7 8 9 9 11 12 13 14 15 15 15 15 15 15 15	Description	Fire plan assignment of Division FDC to Division or Group	Fire plan assignment of Group FDC to Division or Group	Fire plan assignment of first battalion FDC to Division or Group	Fire plan assignment of second battalion FDC to Division or Group	Fire plan assignment of third battalion FDC to Division or Group		•	•	Fire plan assignment of tenth battalion FDC to Division or Group	Fire plan assignment of eleventh battalion FDC to Division or Group	(=1.0, assign to Division; =2.0, assign to Group)	NOTE: This card is always preceded by card type 61 and followed by card type 63.
	F G	Columns	1-5	01-9	11-15	16-20	21-25	•	•	•	26-60	61-65		
FDCS	E E 20 21 22 23 24 25 26	Format	F5.0	F5.0	F5.0	F5.0	F5.0	•	•	•	F5.0	F5.0		
SNMENT OF	C [Units	1		!	!		•	•	•	i I i	1 !		
FIRE PLAN ASSIGNMENT OF	A B	Parameter	FDCD(4,1)	FDCD(4,2)	FDCD(4,3)	FDCD(4,4)	FDCD(4,5)		•	•	FDCD(4,12)	FDCD(4,13)		
FI		ID	4	മ	ပ	۵	ш	•	٠	•	7	Σ		

Card: 63	A B C D E F G H I J K 123 s s s s s s s s s s s s s s s s s s s	Description	Tactical echelon identification of first battalion	Tactical echelon identification of second battalion		•	•	Tactical echelon identification of tenth battalion	Tactical echelon identification of eleventh battalion	(=1., direct support; =2., reinforcing; =3., general support at Divison; =4., general support reinforcing at Division to a direct support battalion; =5., general support reinforcing at Group, and reinforcing only to Division; =6., general support to Group)	NOTE: This card is always preceded by card type 62 and followed by card type 64.	63
	ர் <u>6</u>	Columns	1-5	6-10	•	•	•	46-50	51-55			
OI NO	shazanjazasta	Format	F5.0	F5.0	•		•	F5.0	F5.0			
TCAL ECHEL	S C D	Units			•	•	•	-	-			
BATTALION TACTICAL ECHELON	A E	Parameter	BNEC(1)	BNEC(2)		•	•	BNEC(10)	BNEC(11)			
BA		ΙD	А	8	•	•	•	ר	\checkmark			

												<u> </u>		Card:	64	
Card: 64	E F G H I J K L M Marandra conductor and the second conduction of the second conduction conduction of the second conduction conduction of the second conduction conduction conductions conduction conduction conductions condu	Description	Computer type available at Division FDC	Computer type available at Group FDC	Computer type available at first battalion FDC	Computer type available at second battalion FDC	Computer type available at third battalion FDC	•	•	•	Computer type available at tenth battalion FDC	Computer type available at eleventh battalion FDC	(=1, TACFIRE; =2, FADAC)	NOTE: This card is always preceded by card type 63 and followed by card type 65a.	In data cards 65a through 80b, the notation M/F stands for FADAC and T/F stands for TACFIRE.	
	F G	Columns	1-5	01-9	11-15	16-20	21-25	•	•	•	26-60	61-65				
ATION) E 18¶5 20 21 22 23 24 23 21	Format	15	15	15	IS	15	•	•	٠	15	15				
IDENTIFIC	A B C D	Units	1	-	!	!	!	•	•	•	1	!				
FDC COMPUTER IDENTIFICATION	A E	Parameter	MFDTYP(1)	MFDTYP(2)	MFDTYP(3)	MFDTYP(4)	MFDTYP(5)	•	•	•	MFDTYP(12)	MFDTYP(13)				
		ID	A	В	ပ	۵	Ш	•	•	•		Σ				

			EOFS			CHOCK COMPLETE	evel		- L		Card:	6 5a	
Card: 65a	A B C D E F G H I J I J K	Description	Transmission time of RFAF from battalio n to Division or Group	Extra time needed to process a RFAF at battalion level	Time to process a TOT mission at battalion level	Time to process a TOT + FFE mission at battalion level	Time to process an OBS.ADJ mission at battalion level	Time to process a FFE mission at battalion level	Time to process and transmit an initial mission from Division to Group, or from Group to Di vision	Time to process and transmit a RFAF mission from Division to Group, or from Group to Division	Time to process a fire mission from Division to Group, or Group to Division	Time to process an initial fire mission at Division or Group	
E DATA	E 27 ps 29 30 31 33 34 35	Columns	<i>L</i> -1	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	64-70	
SSION TIM) O O O O O O O O O O	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	
UP TRANSMI	B 9 (10 11 12 11 11 18 17 17 17 17 17 17 17 17 17 17 17 17 17	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	
T/F UP TO T/F UP TRANSMISSION TIME	A 12345678	Parameter	TIM(1,1,1)	TIM(2,1,1)	TIM(3,1,1)	TIM(4,1,1)	TIM(5,1,1)	TIM(6,1,1)	TIM(7,1,1)	TIM(8,1,1)	TIM(9,1,1)	TIM(10,1,1)	
Τ,		ΩI	А	8	ပ	Ω	لنا	LL.	മ	I		J.	

						 	Card:	65a	
Card: 65a	A B C D E F G H I U J K	Description	Time to process a RFAF mission Division or Group	NOTE: This card is always preceded by card type 64 and followed by card type 65b.					
ME DATA	Taberander mandarı	Columns	71-77						
ISSION TIME DATA	C D	Format	F7.2						
UP TRANSM	B storration ister	Units	minutes						
T/F UP TO T/F UP TRANSMI	A 1 2 3 4 5 6 7 8	Parameter	(1,1,11)MIT			 			
		ΩI	×						

						- -					Car	d: 65b	·	
Card: 65b	L 2 3/4 5 6/7 8 9/10 11/2/20 1/2/20 2/2/25 2 2/2/20 2/2/20 2/2/20 2/2/2/20 2/2/2/20 2/2/2/20 2/2/2/20 2/2/2/20 2/2/2/20 2/2/2/20 2/2/2/20 2/2/2/20 2/2/2/20 2/2/20	Description	Time to process and RFAF an initial fire mission at Division or Group	Time to process and RFAF a RFAF mission at Division or Group	Time to process a MET message at Division or Group	Time to process a Survey request at battalion level	Time to process an ATI report at Division or Group	Time to process an ATI report at battalion level	Time to process one fire plan target at Division or Group (computer time only)	Time to process one fire plan target at battalion level (computer time only)	Time to process and transmit one fire plan target at Division or Group (computer and manual time)	Time to transmit one fire plan target from Division or Group to battalion level	NOTE: This card is always preceded by card 65a and followed by card 66a.	
E DATA	P हार्मात अधिक स्थाप	Columns	2-1	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	64-70		
SSION TIM	0 N	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2		
JP TRANSMI	M s often rateralistis to	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes		
T/F UP TO T/F UP TRANSMISSION TIME DATA	1 2 3 4 5 6 7 8	Parameter	TIM(12,1,1)	TIM(13,1,1)	TIM(14,1,1)	TIM(15,1,1)	TIM(16,1,1)	TIM(17,1,1)	TIM(18,1,1)	(1,1,1)	TIM(20,1,1)	TIM(21,1,1)		
1/1		C		Σ	z	0	۵.	0	æ	S	—	D D		

													C	ard:	66a
Card: 66a	A B C D E F G H I I J K I S I I J K I I I J K I I J K I I J K I I J K I I J K I I J K I I J J K I I J J K I J J K I J J K I J J K I J J K I J J K I J J K I J K J K	Description					Camo turn of data are contoured	card 65a, except data are for M/F	ap compared s					NOTE: This card is always preceded by card 65b and followed by card 66b.	
DATA	E 27/24 (29 30/2) 32 33/24 3	Columns	2-1	8-14	15-21	22-28	29-35	36-42	43-49	20-56	57-63	64-70	71-77		
SION TIME	D 18 20 21 22 22 425 26	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2		
P TRANSMIS	B B 1011	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes		
M/F UP TO T/F UP TRANSMISSION TIME	1 2 3 4 5 6 7 8	Parameter	TIM(1,2,1)	TIM(2,2,1)	TIM(3,2,1)	TIM(4,2,1)	TIM(5,2,1)	TIM(6,2,1)	TIM(7,2,1)	TIM(8,2,1)	TIM(9,2,1)	TIM(10,2,1)	TIM(11,2,1)		
M		ID	A	മ	ပ	Ω	ш	LL	ŋ	I	Н	ר	×		

																	
													С	ard:	66b)	
Card: 66b	L M N O P Q R S I S 1/2 s 1/2 m 1/3	Description					Same type of data as entered on	card bob, except data are for M/r up to T/F up computers					NOTE: This card is always preceded by card 66a	and followed by card 67a.			
DATA	D F 27 28 29 30 32 32 32 45	Columns	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	64-70					
SSION TIME	N 0 N	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2					
JP TRANSMIS	M ទ ទព្រព ខ្មៅនេក នៅនេះ	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes					
	6 7 8	j.	2,1)	,2,1)	TIM(14,2,1)	TIM(15,2,1)	TIM(16,2,1)	TIM(17,2,1)	TIM(18,2,1)	TIM(19,2,1)	TIM(20,2,1)	TIM(21,2,1)			****		-
M/F UP TO T/F UP TRANSMISSION TIME DATA	1 2 3 4 5	Parameter	TIM(12,2,1)	TIM(13,2,1)	TIM(14	TIM(1	TIM(1	TIM(1	TIM(1	TIM(1	TIM(2	TIM(3					

	•												Ca	ard:	67a	
Card: 67a	A B C D E F G H I I D K I S of 10 s of 12 s of 20 s of	Description					Same tune of data as entoined on	card 65a, except data are for T/F						NOTE: This card is always preceded by card 66b and followed by card 67b.		
	F . 3637 38 3840 41 42		_										_	NOTE: and fo		
IME DATA	E 27/24/29 30/31 32 33/34 35	Columns	1-7	8-14	15-21	22-28	29-35	36-42	43-49	20-56	57-63	64-70	71-77			
MISSION TIME	C D	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2			
UP TRANS	B spenistranskan	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes			
T/F DOWN TO T/F UP TRANSMI	A 1 2 3 4 5 6 7 8	Parameter	TIM(1,3,1)	TIM(2,3,1)	TIM(3,3,1)	TIM(4,3,1)	TIM(5,3,1)	TIM(6,3,1)	TIM(7,3,1)	TIM(8,3,1)	TIM(9,3,1)	TIM(10,3,1)	TIM(11,3,1)			
T/F		ΙD	А	В	ပ	Q	Ш	I.L.	IJ	工	Н	ŋ	×			

Card: 67b	U Si se selvo nu destre is is in tre-su pe						intered on	are tor I/F :rs					card:	67b	
	. १३ वि. १	Description					Same type of data as entered on	down to T/F up computers				ĺ	NOTE: This card is always preceded card 67a and followed by card 68a.		
ME DATA	p anderse reference reference	Columns	1-7	8-14	15-21	22-28	29-35	36-42	43-49	99-09	57-63	64-70			
IISSION TI	0 N	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2			
T/F DOWN TO T/F UP TRANSMISSION TIME	M shoundanisher	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes			
JWN TO T/F	12345678	Parameter	TIM(12,3,1)	TIM(13,3,1)	TIM(14,3,1)	TIM(15,3,1)	TIM(16,3,1)	TIM(17,3,1)	TIM(18,3,1)	TIM(19,3,1)	TIM(20,3,1)	TIM(21,3,1)	-		
)G :		4	-	_	F	•			•	•	•	•			

						,							Ca	rd: 68a	
Card: 68a	A B C D E F G H I I N I N K I N I N I N I N I N I N I N	Description		•			as bounded of the by out out		3					NOTE: This card is always preceded by card 67b and followed by card 68b.	
	F 53843 38 3													NOTE: and fo	
ME DATA	E 27 28 28 30 31 32 39 34 3	Columns	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	64-70	71-77		
ISSION TI	D C 22 22 122 23 2425 26	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2		
UP TRANSM	B C	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes		
M/F DOWN TO T/F UP TRANSMISSION TIME	A 1 2 3 4 5 6 7 8	Parameter	TIM(1,4,1)	TIM(2,4,1)	TIM(3,4,1)	TIM(4,4,1)	TIM(5,4,1)	TIM(6,4,1)	TIM(7,4,1)	TIM(8,4,1)	TIM(9,4,1)	TIM(10,4,1)	TIM(11,4,1)		
M/F		ID	А	മ	ပ	Q	Ш	ᄔ	G	工	ы	7	×		

		·		•		· · · · · ·	**********				-		C	Card: 69a
Card: 69a	A B C D E F G H I I J K I I I J K I I I J K I I I J K I I I J K I I I J K I I I J K I I I J K I I I J K I I I J K I I I J K I I I J K I I I J K I I I J K I I I J K I I I J K I I I J K I I I J K I I I J K I I I I	Description						entered	card oba except data are for I/r up to M/F up computers					NOTE: This card is always preceded by card 68b and followed by card 69b.
E DATA	E 27/21/25 30/31 32 33/34	Columns	1-7	8-14	15-21	22-28	29-35	36-42	43-49	20-56	57-63	64-70	71-77	
SSION TIME DATA	C 22 22 22 24 28 28 24 28 28 24 28 28 24 28 28 24 28 28 24 28 28 28 28 28 28 28 28 28 28 28 28 28	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	
JP TRANSMIS	B Beneficialistical	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	
T/F UP TO M/F UP TRANSMISS	A 1 2 3 4 5 6 7 8	Parameter	TIM(1,1,2)	TIM(2,1,2)	TIM(3,1,2)	TIM(4,1,2)	TIM(5,1,2)	TIM(6,1,2)	TIM(7,1,2)	TIM(8,1,2)	TIM(9,1,2)	TIM(10,1,2)	TIM(11,1,2)	
1		ID	A	В	ပ		ш	ഥ	G	工	Н	7	\times	

⊢ ~	T/F UP TO M/F UP TRANSMISSION TIME	UP TRANSMI	SSION TIN	ME DATA	Card: 69b
	1 2 3 4 5 6 7	M 8 9 10 11 12 13 14 15 16 17	N 0 N	P F 27/28/29 30(31) 32 33(34)	1 2 3/4 5 6/7 (8 5/10 11 14/13 14/15/16 17 18/19 20 21/22 22 24/25 25 27/29 29 04 12/34 14 24/65 24/25 25 24/25 25 27/25 27/25 28 28 24/25 25 24/25 25 27/25 27/25 28 28 24/25 25 24/25
ID	Parameter	Units	Format	Columns	Description
	TIM(12,1,2)	minutes	F7.2	1-7	
Σ	TIM(13,1,2)	minutes	F7.2	8-14	
z	TIM(14,1,2)	minutes	F7.2	15-21	
0	TIM(15,1,2)	minutes	F7.2	22-28	
۵.	TIM(16,1,2)	minutes	F7.2	29-35	Same type of data as entered on
0	TIM(17,1,2)	minutes	F7.2	36-42	<pre>card bbb, except data are for I/F up to M/F up computers</pre>
æ	TIM(18,1,2)	minutes	F7.2	43-49	
S	TIM(19,1,2)	minutes	F7.2	50-56	
—	TIM(20,1,2)	minutes	F7.2	57-63	
⊃	TIM(21,1,2)	minutes	F7.2	64-70	
	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -				NOTE: This card is always preceded by card 69a and followed by card 70a.
					69b
\dashv					

						-							Car	rd: 70a	
Card: 70a	A B C D E F G H I D K I S S S S S S S S S S S S S S S S S S	Description					no boundance on their de territ amen	card 65a, except data are for M/F	up to M/r up computers					NOTE: This card is always preceded by card 69b and followed by card 70b.	
	334 35 36 37													72 0	\dashv
4E DATA	E 27 (28 29 30(3) 32 3;	Columns	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	64-70	71-77		
SSION TIME	C D	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2		
UP TRANSMIS	B	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes		
M/F UP TO M/F	A 1 2 3 4 5 6 7 8	Parameter	TIM(1,2,2)	TIM(2,2,2)	TIM(3,2,2)	TIM(4,2,2)	TIM(5,2,2)	TIM(6,2,2)	TIM(7,2,2)	TIM(8,2,2)	TIM(9,2,2)	TIM(10,2,2)	TIM(11,2,2)		
M		QI	А	В	ပ	۵	ш	ᄕ	മ	I	Н	ט	×		

	:												Card: 70b	
Card: 70b	0 P Q R S T D D Q R S S S S S S S S S S S S S S S S S S	Description					Same type of data as entered on	card bob, except data are for M/F up computers					NOTE: This card is always preceded by card 70a and followed by card 71a.	
SSION TIME DATA	P P P P P P P P P P P P P P P P P P P	Columns	1-7	8-14	15-21	22-28	29-35	36-42	43-49	20-56	57-63	64-70		
MISSION T	N Szpszszszyszenie	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2		
F UP TRANS	L M N N 12 12 12 12 13 14 5 6 17 18 19 11 11 11 11 11 11 11 11 11 11 11 11	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes		
M/F UP TO M/F UP TRANSMI	1 2 3 4 5 6 7 8	Parameter	TIM(12,2,2)	TIM(13,2,2)	TIM(14,2,2)	TIM(15,2,2)	TIM(16,2,2)	TIM(17,2,2)	TIM(18,2,2)	TIM(19,2,2)	TIM(20,2,2)	TIM(21,2,2)		
	1	음		Σ	Z	0	۵	0	82	S	<u> </u>	⊐		-

Card: 71a	A B C D E F G H I I J K	Description					4.4.	card 65a, except data are for T/F	down to myr up computers				Co	NOTE: This card is always preceded by card 70b and followed by card 71b.
SSION TIME DATA	E 27/20/29 30/31 32 33/34	Columns	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	64-70	71-77	
T NOISSIM	C D D 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	
F UP TRANSA	B Berrizhansherri	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	
T/F DOWN TO M/F UP TRANSMI	A 1 2 3 4 5 6 7 8	Parameter	TIM(1,3,2)	TIM(2,3,2)	TIM(3,3,2)	TIM(4,3,2)	TIM(5,3,2)	TIM(6,3,2)	TIM(7,3,2)	TIM(8,3,2)	TIM(9,3,2)	TIM(10,3,2)	TIM(11,3,2)	
1		ID	A	В	ပ	О	ш	LL	ß	工	ы	٦	\checkmark	

Card: 71b	R S T U U I I I I I I I I I I I I I I I I I	Description					Same type of data as entered on	down to M/F up computers					ANOTE: This card is always preceded by card 71a and followed by card 72a.
DATA	7 0 P 0 R	Columns	1-7	8-14	15-21	22-28	29–35	36-42	43–49	20-56	57-63	64-70	NOTE: This and follower
ISSION TIME DATA	0 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Format C	F7.2	F7.2 8	F7.2	F7.2	F7.2	F7.2	F7.2 '	F7.2	F7.2	F7.2	
UP TRANSM	N M L S of s of s of some special selections	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	
T/F DOWN TO M/F UP TRANSMIS	1 2 3 4 5 6 7 8	Parameter	TIM(12,3,2)	TIM(13,3,2)	TIM(14,3,2)	TIM(15,3,2)	TIM(16,3,2)	TIM(17,3,2)	TIM(18,3,2)	TIM(19,3,2)	TIM(20,3,2)	TIM(21,3,2)	
T/F		ID		Σ	z	0	۵	0	~	S	<u> </u>	<u> </u>	

					-		•						C	ard: 72a
Card: 72a	A B C D E F G H I D K	Description						card 65a, except data are for M/F	down to M/r up computers					NOTE: This card is always preceded by card 71b and followed by card 72b.
ME DATA	27/24/29 30(3) 32 33(34)	Columns	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	64-70	71-77	
ISSION TIME	C D	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	
UP TRANSM	B shortington episterry	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	
M/F DOWN TO M/F UP TRANSMI	A 1 2 3 4 5 6 7 8	Parameter	TIM(1,4,2)	TIM(2,4,2)	TIM(3,4,2)	TIM(4,4,2)	TIM(5,4,2)	TIM(6,4,2)	TIM(7,4,2)	TIM(8,4,2)	TIM(9,4,2)	TIM(10,4,2)	TIM(11,4,2)	
M/F		ID	А	В	ပ	Ω	ш	ட	ŋ	I	н	רי	×	

													Card: 72	?b
Card: 72b	L M N O P Q R S T U U UNINGENTIAL POPE AND A SENTINGENTIAL SENTINGENTAL SENTIN	Description					Same type of data as entered on	M/F down to M/F up computers					NOTE: This card is always preceded by card 72a and followed by card 73a.	
SSION TIME DATA	G 25 1505 62 12/12 3	Columns	L-1	8-14	15-21	22-28	29-35	36-42	43-49	20-56	57-63	64-70		
T NOISSIN T	0 N N	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2		
M/F DOWN TO M/F UP TRANSMI	M sponstanster	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes		
WN TO M/F	12345678	Parameter	TIM(12,4,2)	TIM(13,4,2)	TIM(14,4,2)	TIM(15,4,2)	TIM(16,4,2)	TIM(17,4,2)	TIM(18,4,2)	TIM(19,4,2)	TIM(20,4,2)	TIM(21,4,2)		
00 :		- I	1	•										

	•												С	ard: 73a	
Card: 73a	A B C D E F G H I I J K I I J K I I I J K I I I J K I I I J K I I I J K I I I J K I I J J K J K	Description					as beautiful to said our?	card 65a, except data are for	I/r up to i/r gown computers					NOTE: This card is always preceded by card 72b and followed by card 73b.	
ME DATA	7 E 27 27 27 27 27 27 27 27 27 27 27 27 27	Columns	1-7	8-14	15-21	22-28	29-35	36-42	43-49	20-56	57-63	64-70	71-17		
ISSION TIME DATA	D 222222028	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2		
OWN TRANSM	B C	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes		·
T/F UP TO T/F DOWN TRANSMI	A 1 2 3 4 5 6 7 8	Parameter	TIM(1,1,3)	TIM(2,1,3)	TIM(3,1,3)	TIM(4,1,3)	TIM(5,1,3)	TIM(6,1,3)	TIM(7,1,3)	TIM(8,1,3)	TIM(9,1,3)	TIM(10,1,3)	TIM(11,1,3)		
1/1		ID	А	B	ပ	Q	Ш	ш.	5	ı	Н	Ŋ	×		

Ι΄.	T/F UP TO T/F DOWN TRANSMISSION TIME DATA	F DOWN TRAN	ISMISSION	TIME DATA	Card: 73b
	1 2 3 4 5 6 7	M • slen ran range v	N 0 N	P Para das salaras	L M N 0 P Q R S T U U N N 10 P Q R S T N N N N N N N N N N N N N N N N N N
ID	Parameter	Units	Format	Columns	
7	TIM(12,1,3)	minutes	F7.2	1-7	
Σ	TIM(13,1,3)	minutes	F7.2	8-14	
z	TIM(14,1,3)	minutes	F7.2	15-21	
0	TIM(15,1,3)	minutes	F7.2	22-28	
Д	TIM(16,1,3)	minutes	F7.2	29-35	Same type of data as entered on
0	TIM(17,1,3)	minutes	F7.2	36-42	Card 65b, except data are for T/F up to T/F down computers
×	TIM(18,1,3)	minutes	F7.2	43-49	
S	TIM(19,1,3)	minutes	F7.2	50-56	
-	TIM(20,1,3)	minutes	F7.2	57-63	
n	TIM(21,1,3)	minutes	F7.2	64-70	
					NOTE: This card is always preceded by card 73a and followed by card 74a.
· · · · · · · · · · · · · · · · · · ·					73b
4					

													C	ard: 7	4a	
Card: 74a	K seelen nater nate management						10 TO	for	2					ded by card 73b		
	A B C D E F G H I I I J K	Description					Camp time of data as onto	card 65a, except data are for	מין ב מין ב מישנו בסייף מי					NOTE: This card is always preceded by card 73b and followed by card 74b.		
TA	E 1 32 33[34 35 36]	uns				∞	رئ ا		6.	99						
ME DA	6 27 pe 29 30 ja	Columns	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	64-70	71-77			
ISSION TI	C D S 18 20 20 20 20 20 20 20 20 20 20 20 20 20	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2			
OWN TRANSM	B sperrations	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes			
M/F UP TO T/F DOWN TRANSMISSION TIME DATA	A 1 2 3 4 5 6 7 8	Parameter	TIM(1,2,3)	TIM(2,2,3)	TIM(3,2,3)	TIM(4,2,3)	TIM(5,2,3)	TIM(6,2,3)	TIM(7,2,3)	TIM(8,2,3)	TIM(9,2,3)	TIM(10,2,3)	TIM(11,2,3)			
M/F		ΙD	А	В	ပ	۵	ш	LL.	ŋ	I	Н	Ŋ	\times			

	,												Card:	74b
Card: 74b	L M N O P Q · R S T I U I I I I I I I I I I I I I I I I I					·	Same type of data as entered on	<pre>A card 65b, except data are for M/F up to T/F down computers</pre>					NOTE: This card is always preceded by card 74a and followed by card 75a.	
SSION TIME DATA	P Ages sept 12 sept	Columns	1-7	8-14	15-21	22-28	29-35	36-42	43-49	20-56	57-63	64-70		
AISSION T	0 1	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2		
JOWN TRANSA	M M Males	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes		
M/F UP TO T/F DOWN TRANSMI	1 2 3 4 5 6 7 1	Parameter	TIM(12,2,3)	TIM(13,2,3)	TIM(14,2,3)	TIM(15,2,3)	TIM(16,2,3)	TIM(17,2,3)	TIM(18,2,3)	TIM(19,2,3)	TIM(20,2,3)	TIM(21,2,3)		
M/F		ID		Σ	z	0	۵.	0	~	S	—	¬		

														Card: 75a
Card: 75a	I J K Radio contraction of the restriction of the r	Description						card 65a, except data are for	down computers					NOTE: This card is always preceded by card 74b and followed by card 75b.
ТА	A B C D E F G H I I J K I I I I	Desc					4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	card 65a, except data are for	1/r down to 1/r					NOTE: This card is alway and followed by card 75b.
SMISSION TIME DATA	E 27/28/29 30(3) 32 33(34	Columns	<i>L</i> -1	8-14	15-21	22-28	29-35	36-42	43-49	20-56	57-63	64-70	71-77	
NSMISSION	C D D S 2425 2	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	
F DOWN TRA	B storrigisraistar	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	
T/F DOWN TO T/F DOWN TRAN	A 1 2 3 4 5 6 7 8	Parameter	TIM(1,3,3)	TIM(2,3,3)	TIM(3,3,3)	TIM(4,3,3)	TIM(5,3,3)	TIM(6,3,3)	TIM(7,3,3)	TIM(8,3,3)	TIM(9,3,3)	TIM(10,3,3)	TIM(11,3,3)	
<u></u>		ΟI	А	8	ပ	Ω	LL.	ഥ	9	I	Н	רי	¥	

Hamilton D	-	T/F DOWN TO T/F DOWN TRANSMISSION TIME DATA	F DOWN TRAN	NSMISSION	TIME DAT	
TIM(12,3,3) minutes F7.2 1-7 TIM(13,3,3) minutes F7.2 8-14 TIM(14,3,3) minutes F7.2 22-28 TIM(16,3,3) minutes F7.2 29-35 TIM(16,3,3) minutes F7.2 29-35 TIM(18,3,3) minutes F7.2 36-42 TIM(19,3,3) minutes F7.2 50-56 TIM(20,3,3) minutes F7.2 64-70 TIM(20,3,3) minutes F7.2 64-70 TIM(21,3,3) minutes F7.2 64-70		1 2 3 4 5 6/7	M sponskawsten	O N September 19	P P P P P P P P P P P P P P P P P P P	Q R S T U U SAPATATA SAPATA SA
TIM(12,3,3) minutes F7.2 1-7 TIM(14,3,3) minutes F7.2 15-21 TIM(16,3,3) minutes F7.2 22-28 TIM(16,3,3) minutes F7.2 29-35 TIM(18,3,3) minutes F7.2 36-42 TIM(18,3,3) minutes F7.2 50-56 TIM(19,3,3) minutes F7.2 50-63 TIM(20,3,3) minutes F7.2 64-70 TIM(21,3,3) minutes F7.2 64-70 TIM(21,3,3) minutes F7.2 57-63	01	Parameter	Units	Format	Columns	
TIM(13,3,3) minutes F7.2 8-14 TIM(14,3,3) minutes F7.2 15-21 TIM(15,3,3) minutes F7.2 29-35 TIM(16,3,3) minutes F7.2 36-42 TIM(18,3,3) minutes F7.2 43-49 TIM(19,3,3) minutes F7.2 50-56 TIM(20,3,3) minutes F7.2 64-70 TIM(21,3,3) minutes F7.2 64-70		TIM(12,3,3)		F7.2	1-7	
TIM(14,3,3) minutes F7.2 22-28 TIM(16,3,3) minutes F7.2 29-35 TIM(16,3,3) minutes F7.2 36-42 TIM(18,3,3) minutes F7.2 43-49 TIM(19,3,3) minutes F7.2 50-56 TIM(20,3,3) minutes F7.2 64-70 TIM(21,3,3) minutes F7.2 64-70 TIM(21,3,3) minutes F7.2 64-70	Σ	TIM(13,3,3)		F7.2	8-14	
TIM(16,3,3) minutes F7.2 22-28 TIM(16,3,3) minutes F7.2 29-35 TIM(17,3,3) minutes F7.2 43-49 TIM(19,3,3) minutes F7.2 50-56 TIM(20,3,3) minutes F7.2 64-70 TIM(21,3,3) minutes F7.2 64-70 TIM(21,3,3) minutes F7.2 64-70	z	TIM(14,3,3)		F7.2	15-21	
TIM(16,3,3) minutes F7.2 29-35 TIM(17,3,3) minutes F7.2 36-42 TIM(18,3,3) minutes F7.2 50-56 TIM(20,3,3) minutes F7.2 57-63 TIM(21,3,3) minutes F7.2 64-70 TIM(21,3,3) minutes F7.2 64-70	0	TIM(15,3,3)	minutes	F7.2	22-28	
TIM(18,3,3) minutes F7.2 43-49 TIM(18,3,3) minutes F7.2 50-56 TIM(20,3,3) minutes F7.2 57-63 TIM(21,3,3) minutes F7.2 64-70 TIM(21,3,3) minutes F7.2 64-70 TIM(21,3,3) minutes F7.2 64-70	۵	TIM(16,3,3)	minutes	F7.2	29-35	Same type of data as entered on
TIM(18,3,3) minutes F7.2 43-49 TIM(19,3,3) minutes F7.2 57-63 TIM(20,3,3) minutes F7.2 64-70 TIM(21,3,3) minutes F7.2 64-70 Card 75a	ò	TIM(17,3,3)	minutes	F7.2	36-42	card 65b, except data are for
TIM(19,3,3) minutes F7.2 50-56 TIM(20,3,3) minutes F7.2 64-70 TIM(21,3,3) minutes F7.2 64-70 MOTE: card 78	~	TIM(18,3,3)	minutes	F7.2	43-49	
TIM(20,3,3) minutes F7.2 57-63 TIM(21,3,3) minutes F7.2 64-70 NOTE: card 75	S	TIM(19,3,3)	minutes	F7.2	50-56	
TIM(21,3,3) minutes F7.2 64-70 NOTE: card 75	—	TIM(20,3,3)	minutes	F7.2	57-63	
Ħ)	-	TIM(21,3,3)	minutes	F7.2	64-70	
						NOTE: This card is always preceded by card 75a and followed by card 76a.
						75b

											W		С	ard: 76a
Card	A B C D E F G H I J K	Description					Camp type of data as entered on	card 65b, except data are for						NOTE: This card is always preceded by card 75b and followed by card 76b.
TIME DATA	T/20 25 30(3) 32 33(34)	Columns	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	64-70	71-77	
SMISSION	O 87 22 22 22 23 24 35	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	
DOWN TRANS	B C	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	
M/F DOWN TO T/F DOWN TRANSMISSION TIME DATA	A 1 2 3 4 5 6 7 1	Parameter	TIM(1,4,3)	TIM92,4,3)	TIM(3,4,3)	TIM(4,4,3)	TIM(5,4,3)	TIM(6,4,3)	TIM(7,4,3)	TIM(8,4,3)	TIM(9,4,3)	TIM(10,4,3)	TIM(11,4,3)	
LL		ID	A	<u>—</u>	ပ	<u>.</u>	Ш	· LL	5	 	· 	ر.	~	· · · · · · · · · · · · · · · · · · ·

П	•	T											C	ard: 77a	
Card: 77a	A B C D E F G H I I J N K I S of 1 to 18 ft 10 11 this construction and co	Description					no bount of data as seen	card 65a, except data are for	ין מאון כסייים מאני כייים מאון כי					NOTE: This card is always preceded by card 76b and followed by card 77b.	
ME DATE	The case of the states	Columns	1-7	8-14	15-21	22-28	29-35	36-42	43-49	99-09	57-63	64-70	71-17		
ISSION TI	C D	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F.2	F7.2	F7.2	F7.2	F7.2	F7.2		
OWN TRANSM	B short rates respective	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes		·
T/F UP TO M/F DOWN TRANSMISSION TIME DATE	A 1 2 3 4 5 6 7 8	Parameter	TIM(1,1,4)	TIM(2,1,4)	TIM(3,1,4)	TIM(4,1,4)	TIM(5,1,4)	TIM(6,1,4)	TIM(7,1,4)	TIM(8,1,4)	TIM(9,1,4)	TIM(10,1,4)	TIM(11,1,4)		
T/F		ID	A	20	၁	ρΩ	Ш	i.	G	工	Н	J	×		

L M N 1.2.3 4.5 4.5 4.5 4.5 4.5 4.5 4.5 TIM(12,1,4) minutes TIM(14,1,4) minutes TIM(14,1,4) minutes TIM(15,1,4) minutes	Format Format F7.2 F7.2 F7.2 F7.2 F7.2 F7.2 F7.2 F7.2	Columns 1-7 8-14 15-21 22-28 29-35	12.14 minutes F7.2 15-21 Same type of data are for for format F7.2 29-35 F7.2 17.14 minutes F7.2	--	---	--	---
4) minutes 4) minutes 4) minutes 4) minutes 4) minutes	Format F7.2 F7.2 F7.2 F7.2 F7.2	Columns 1-7 8-14 15-21 22-28 29-35 36-42	Same type of data as entered on card 65b, except data are for T/F up to M/F down computers				
	F7.2 F7.2 F7.2 F7.2 F7.2	1-7 8-14 15-21 22-28 29-35	of data as except data				
	F7.2 F7.2 F7.2 F7.2	8-14 15-21 22-28 29-35 36-42	of data as except data				
	F7.2 F7.2 F7.2	15-21 22-28 29-35 36-42	of data as except data M/F down co				
	F7.2 F7.2	22-28 29-35 36-42	of data as except data M/F down co				
	F7.2	29-35	of data as except data M/F down co				
TIM(16,1,4) minutes	F7.2	36-42	except data M/F down co				
TIM(17,1,4) minutes	,						
TIM(18,1,4) minutes	F7.2	43-49					
TIM(19,1,4) minutes	F7.2	50-56					
TIM(20,1,4) minutes	F7.2	57-63					
TIM(21,1,4) minutes	F7.2	64-70					
			NOTE: This card is always preceded by card 77a and followed by card 78a.				

				<u>.</u>							•		C	ard: 78a	
Card: 78a	J K sesseptementangana							ered on e for	ters					eded by 8b.	
	A B C D E F G H I I A I I I I I I I I I I I I I I I I	Description					-	same type of data as entered on card 65a, except data are for	M/F up to M/F down compu					NOTE: This card is always preceded card 77b and followed by card 78b.	
	F 35 36 37 38													ca Ca	
IME DATA	E 27/26/29 30(3) 32 33(3)	Columns	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	64-70	71-77		
ISSION TIME	C 22/12 62 61/81	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2		
OWN TRANSM	B C	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes		
M/F UP TO M/F DOWN TRANSMI	A 1 2 3 4 5 6 7 8	Parameter	TIM(1,2,4)	TIM(2,2,4)	TIM(3,2,4)	TIM(4,2,4)	TIM(5,2,4)	TIM(6,2,4)	TIM(7,2,4)	TIM(8,2,4)	TIM(9,2,4)	TIM(10,2,4)	TIM(11,2,4)		
M/F		ID	A	В	ပ	Q	ш	ഥ	ഗ	I	Н	ר	×		

Card: 78b	L M N O P Q R S T I I I I I I I I I I I I I I I I I I	Description					Same type of data as entered on	card 65b, except data are for M/F up to M/F down computers					NOTE: This card is always preceded by card 78a and followed by card 79a.
ME DATA	P P P P P P P P P P P P P P P P P P P	Columns	1-7	8-14	15-21	22-28	29-35	36-42	43-49	20-56	57-63	64-70	
IISSION TI	0 6h9 20 21/22 23 24/25 75	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	
JOWN TRANSP	M M M sie 1916 1	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	
M/F UP TO M/F DOWN TRANSMISSION TIME	1 2 3 4 5 6 7 8	Parameter	TIM(12,2,4)	TIM(13,2,4)	TIM(14,2,4)	TIM(15,2,4)	TIM(16,2,4)	TIM(17,2,4)	TIM(18,2,4)	TIM(19,2,4)	TIM(20,2,4)	TIM(21,2,4)	
M/1		ΩI		Σ	z	0	۵	ò	æ	S	F	>	

Card: 79a	
Card: 79a	
Name	
NOTE:	
TIME DAT E subposito zub Columns 1-7 8-14 15-21 22-28 29-35 36-42 43-49 50-56 57-63 64-70 71-77	
SMISSION C	
A B B C Down TIME DATA	
TIM(1,3,4) TIM(1,3,4) TIM(2,3,4) TIM(4,3,4) TIM(6,3,4) TIM(6,3,4) TIM(7,3,4) TIM(8,3,4) TIM(9,3,4) TIM(9,3,4) TIM(9,3,4) TIM(10,3,4) TIM(10,3,4)	

Same type of data as ent card 65b, except data ar T/F up to M/F down compurate to This card is always precedered 79a and followed by card 80	IT DOWN TO M/F DOWN TI	T NWOO T	RAN	NOISSIMS	DOWN TRANSMISSION TIME DATA	
	L N N O	O N N Maranas and a second of the second of	0 N		P 27 21 23 30 31 32 33 34 3	्री R S T U प्रमुख्या स्थित स्थित स्थित स्था है । स्था स्था स्था स्था स्था स्था स्था स्था
Same type of data as entered on card 65b, except data are for I/F up to M/F down computers NOTE: This card is always preceded by card 79a and followed by card 80a.	Parameter Units Format	Units Format	Format		Columns	Description
Same type of data as entered on card 65b, except data are for I/F up to M/F down computers NOTE: This card is always preceded by card 79a and followed by card 80a.	TIM(12,3,4) minutes F7.2	minutes	F7.2		1-7	
Same type of data as entered on card 65b, except data are for I/F up to M/F down computers NOTE: This card is always preceded by card 79a and followed by card 80a.	TIM(13,3,4) minutes F7.2	minutes F7.2			8-14	
Same type of data as entered on card 65b, except data are for T/F up to M/F down computers NOTE: This card is always preceded by card 79a and followed by card 80a.	TIM(14,3,4) minutes F7.2	minutes F7.2		•	15-21	
Same type of data as entered on card 65b, except data are for I/F up to M/F down computers NOTE: This card is always preceded by card 79a and followed by card 80a.	TIM(15,3,4) minutes F7.2 2	minutes F7.2		.,	22-28	
NOTE: This card is always preceded by card 79a and followed by card 80a.	TIM(16,3,4) minutes F7.2 2	minutes F7.2			29-35	Same type of data as entered on
NOTE: This card is always preceded by card 79a and followed by card 80a.	TIM(17,3,4) minutes F7.2 3	minutes F7.2		(1)	36-42	T/F up to M/F down computers
NOTE: This card is always preceded by card 79a and followed by card 80a.	TIM(18,3,4) minutes F7.2 4	minutes F7.2		4	43-49	
NOTE: This card is always preceded by card 79a and followed by card 80a.	TIM(19,3,4) minutes	minutes F7.2		20	50-56	
NOTE: This card is always preceded by card 79a and followed by card 80a.	TIM(20,3,4) minutes F7.2 57	minutes F7.2		57	57-63	
This card is always preceded by 19a and followed by card 80a.	TIM(21,3,4) minutes F7.2 6	minutes F7.2		79	64-70	
lb .						This card is always preceded by 79a and followed by card 80a.
)b

	1												С	ard:	80a	
A Card: 80a	A B C D E F G H I J J K	Description						Same type of data as entered on card 65a, except data are for	M/F down to M/F down computers					NOTE: This card is always preceded by card 79b and followed by card 80b.		
TIME DAT	E E salas as aslas	Columns	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	64-70	71-77			
SMISSION	C D	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2			
DOWN TRAN	B s s io r r z i s r d i s i o r r	Units	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes	minutes			
M/F DOWN TO M/F DOWN TRANSMISSION TIME DATA	A 1 2 3 4 5 6 7 1	Parameter	TIM(1,4,4)	TIM(2,4,4)	TIM(3,4,4)	TIM(4,4,4)	TIM(5,4,4)	TIM(6,4,4)	TIM(7,4,4)	TIM(8,4,4)	TIM(9,4,4)	TIM(10,4,4)	TIM(11,4,4)			
M/		ID	Ø	В	ပ	O	Ш	Ь	ŋ	Ι	н	Ŋ	\times			

-													Card:	80b	
4 Card: 80b	L 23/4 S 6/7 8 9/10 11 1/33 to 1/32 to 2/22 23 24/23 to 2/24 25 6/2 13 1/3 to 1/3 to 1/3 to 1/3 to 2/22 23 24/23 25/25 25/25 2	Description					type of data as enter	Card 65b, except data are for M/F down to M/F down computers					NOTE: This card is always preceded by card 80a and followed by card 81.	SOB	
TIME DATA	P Peter 25 refer 82 sept 8	Columns	1-7	8-14	15-21	22-28	29-35	36-42	43-49	20-26	57-63	64-70			
MISSION	0 20 21 22 23 24 25 24	Format	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	F7.2	2	.2			
S	Z	ш.		ш.	<u> </u>	LL.	F7	F7	F7	F7	F7.2	F7.2			
DOWN TRANSMISSION	N M M	Units	minutes	minutes	minutes F	minutes	minutes F7	minutes F7	minutes F7	minutes F7	minutes F7.	minutes F7	***************************************		
M/F DOWN TO M/F DOWN TRANSM	N M L Z 3 4 5 6 7 8 9 10 11 12 11 11 11 11 11 11 11 11 11 11 11	Parameter Units F												-	

П				Card: 81
Card: 81	**************************************			is hereby mented
	A १ १ ३ हे १ ४ ७ १०११ क्षिण स्वीतम्म स्वत्येतक स्वित्येत्रक्षां स्वयंत्रक स्वीतम्ब स्वीयम्ब स्वायंत्रक स्वतंत्रक स्वीतम स	Description	Number of FDC equipment failures + (current maximum value of 13)	NOTE: A dummy equipment failure is required by the program logic, thereby necessitating that the number of actual equipment failures be augmented by 1.
	KEE ZE 1506 62 82/2 9	Columns	1-5	
FAILURES	2 52 0 20 21 22 23 24 25 2	Format	15	
OF FDC EQUIPMENT F	1 9 to 11 12 13 14 15 17	Units		
NUMBER OF FDC E	A 1234567	Parameter	NFAIL	
UME		ID	A	

FDC EQUIPMENT FAILURE DATA 1 A	-	1	-						
A B Columns		,							Card: 82
Para RAMII RAMII RAMIII RAMIII		ि उत्तरक्षण आ ज्येत्य <u>ता त्येतमम्बन्दास्य उपात्रीहर देश इबीहर इड हा</u> ग्रह्म इड हा <mark>वेत हर हावेन हर हाज्या गायान्त्र स्थ</mark>	Description	Number of FDC at which i th failure occurred	Time at which i th failure occurred	Time at which repair of i th failure is completed	Type of i th failure	Time duration of i th failure	NOTE: As many as 13 cards of this type may be required; one for each of up to 12 failures, plus a dummy failure card required for program logic.
Para RAMII RAMII RAMIII RAMIII		ी जिस्सा क्षा क्षा क्षा	Columns	1-8	9-16	17-24	25-32	33-40	
Para RAMII RAMII RAMIII RAMIII	AT.	C The market are the a	Format	F8.2	F8.2	F8.2	F8.2	F8.2	
Para RAMII RAMII RAMIII RAMIII	FAILURE DA	B	Unīts		minutes	minutes	†	minutes	
I I I I I I I I I I I I I I I I I I I	C EQUIPMENT	A 1 2 3 4 5 6 7 1	Parameter	RAMIN(I,1)	RAMIN(I,2)	RAMIN(I,3)	RAMIN(I,4)	RAMIN(1,5)	
	FD		ΩI	∀					

	•				Card: 83
Card: 83	A B e s el r e state entre ent	Description	Orders Red weapon systems for counterbattery	each digit represents the particular Red system to be tried next for counterbattery fire	NOTE: This card always follows the last type 82 card. It is followed by from one to eight type 84 cards.
	12121 28 30 10 10 10 10 10 10 10 10 10 10 10 10 10	Columns	1-10	11-20	
RING	25 27 22 23 24 25 25	Format	. 011	011	
SYSTEMS ORDER	B shair rater te ishe iz	Units	1	1	
₩ ₩	A 1234567	Parameter	IORDER(1)	IORDER(2)	
RED		ID	A	8	

Columns Columns Lol Number of the 1st Red battalion that is equipped with i th weapons system type 1-20 Total number of Red battalions that are equipped with i th weapons system type
Heir nife a zapa zapa za zapa za zapa za zapa zapa za zapa zapa zapa za zapa zapa zapa zapa zapa zapa zapa zap
Units Format Columns F10.4 1-10 Number of the 1s with ith weapons F10.4 11-20 Total number of with ith weapons
1-10
11-20
with i th weapons
NOTE: Maximum number of cards of this type is eight. The first card of this type is always preceded by card 83, and the last card of this type is always followed by the first type 85 card.

Card: 85	C	Description	Battalion ID (as a Blue target on target tape) of the i th Red battalion	Number of batteries or fire units in the Red battalion	Number of tubes per Red battery at start of game	Red battalion weapons system number	Index number of first battery in this Red battalion	Not used at the present time; leave blank	Echelon key (= 1.0, regimental artillery; =2.0, Division artillery; =3.0, Army artillery)	NOTE: Each card of this type is followed by sets of card type 86 and card type 87. Reading of this type card and card types 86 and 87 is terminated when a value of 9999. is entered in columns 1-10 of this type card. The number of type 86 cards that are required for each card of this type depends upon the value entered in columns 11-20 of this card type.
	27/28 29 30/31 32 33/34	Columns	1-10	11-20	21-30	31-40	41-50	21-60	61-70	
	C 18/19 20/21/22 23 24/25 24	Format	F10.4	F10.4	F10.4	F10.4	F10.4	F10.4	F10.4	
ЭАТА	A B B 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 15 18	Units		} 	!	!	!	-	1	
BATTALION DATA	A 1 2 3 4 5 6 7 0	Parameter	REDBN(I,1)	REDBN(I,2)	REDBN(I,3)	REDBN(I,4)	REDBN(I,5)	REDBN(I,6)	REDBN(I,7)	
RED		ΟI	A	8	ပ	۵	ш	L	G	

Card: 86	A B C D E F G Holington in the contraction of the c	Description	Red battalion number to which k th battery belongs	Number of tubes up in k th battery	Time that k th battery can begin next mission	k th battery's current site number	Fractional personnel survivors in this Red battalion. When this drops below DL, the specified defeat level, this value is set to 100000	k th battery's ID number (as a Blue target)	Number of rounds fired by k th battery up to present	Number of sites for k battery during game (maximum value of 6)	NOTE: The number of cards of this type for each card type 85 is determined from the value entered in columns 11-20 of card type 85. Each type 86 card is followed by up to 6 type 87 cards, the number of type 87 cards being determined by the value entered in columns 71-80 of a type 86 card.	6
	: 14 to 25 to 15 t	Columns	1-10	11-20	21-30	31-40	41-50	21-60	01-70	71-80		
	C C 2020/22 23 2455 70	Format	F10.4	F10.4	F10.4	F10.4	F10.4	F10.4	F10.4	F10.4		
TA	B sponstansfien	Units	! !	-	minutes	1	!					
X			1	,2)	(2,3)	(,4)	K,5)	K,6)	K,7)	K,8)		
RED BATTERY DATA	1 2 3 4 5 B 7	Parameter	REDBAT(K,1)	REDBAT(K,2)	REDBAT(K,3)	REDBAT(K,4)	REDBAT(K,5)	REDBAT(K,6)	REDBAT(K,7)	REDBAT(K,8)		

					L. L. C. S. H. Haller		10	Card:	87
Card: 87	58 55 TO 17 29 39 44 55 18 17 18 79 80		ny at its l th site	tery from its l th	y's l th site	Red battery's I th site	type are required The number of cards ned by the value card.		
	C D applications and a series a	Description	Time of arrival of k th Red battery at its l th	Time of departure of k th Red battery from its l th site	- coordinate of k th Red battery's 1 th	- coordinate of k th Red batter	NOTE: From 1 to 6 cards of this type are required for each type 86 card entered. The number of cards for each type 86 card is determined by the value entered in columns 71-80 of that card.		
	D 435 35 pg 38 39 40		Time	Time site	×	>,	NOTE for for ente		
	2 17 2E 28 30 51 32 32 32	Columns	1-10	11-20	21-30	31-40			
	C ette zaztze zates n	Format	F10.4	F10.4	F10.4	F10.4			
SITE DATA	B 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 15 18	Units	minutes	minutes	kilometers	kilometers			
BATTERY	A 1 2 3 4 5 6 7	Parameter	REDMOV (K,L,1)	REDMOV (K,L,2)	REDMOV (K,L,3)	REDMOV (K,L,4)			
RED		ΙD	А	ω	ပ	۵			

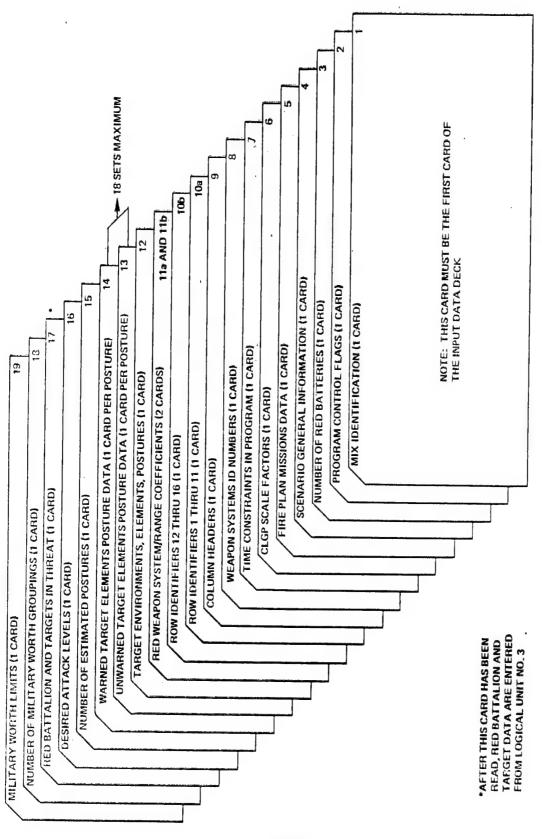


FIGURE 3-1. Typical AFSM Data Deck Setup (Page 1 of 6).

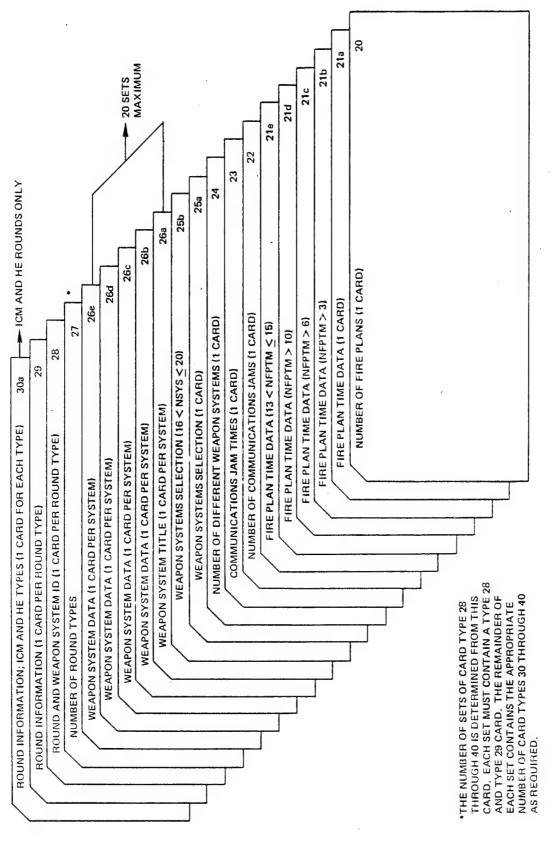


FIGURE 3-1. Typical AFSM Data Deck Setup (Page 2 of 6).

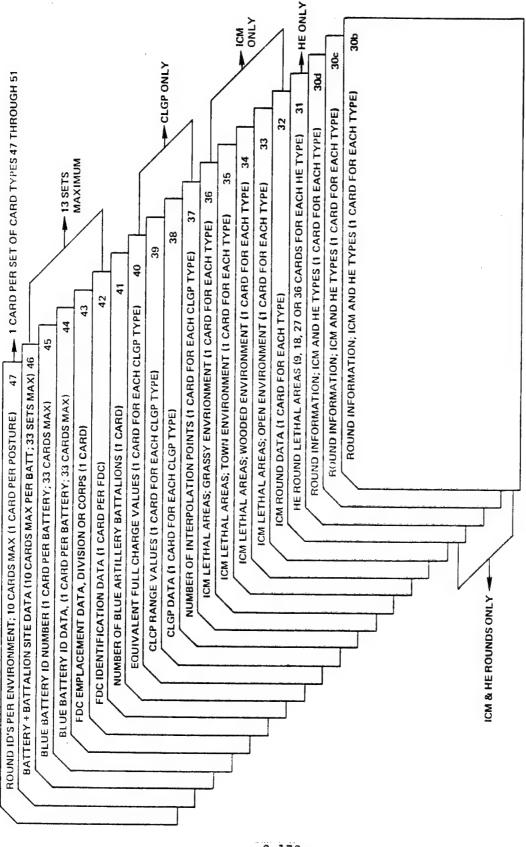


FIGURE 3-1. Typical AFSM Data Deck Setup (Page 3 of 6).

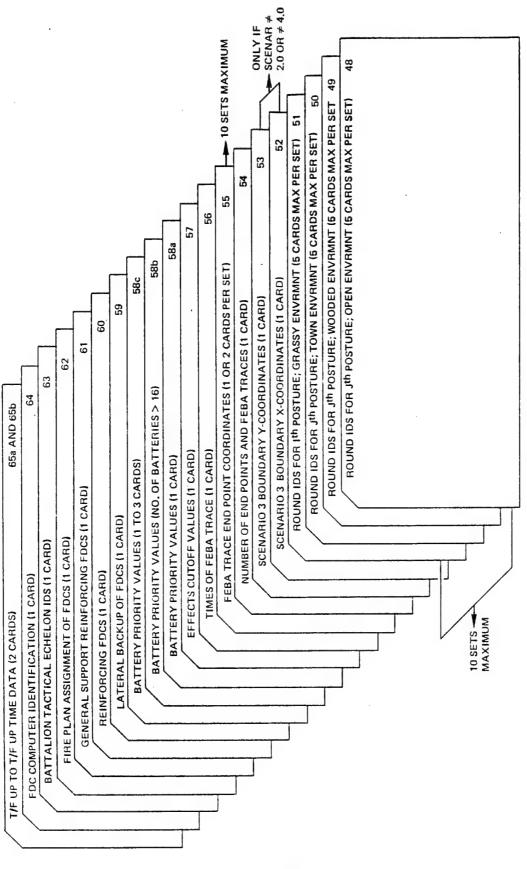


FIGURE 3-1. Typical AFSM Data Deck Setup (Page 4 of 6).

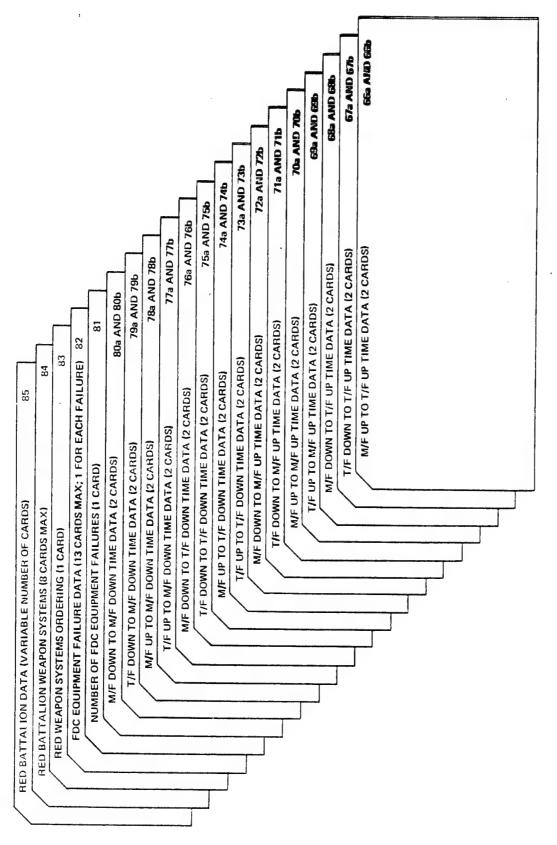


FIGURE 3-1. Typical AFSM Data Deck Setup (Page 5 of 6).

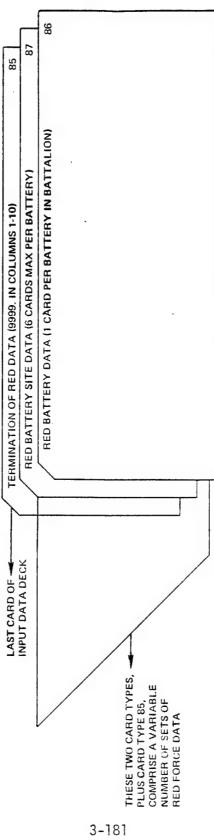


FIGURE 3-1. Typical AFSM Data Deck Setup (Page 6 of 6).

SECTION 4

OUTPUT

In this section the various types of hard copy output generated during execution of the AFSM Computer Program are discussed. Whenever reference is made to data card types, the reader should refer to Section 3 of this report for descriptions of the specified card types. Hard copy output, as generated during execution of each of the six input subroutines, is discussed first. A discussion of the scenario results at a specified game time is presented next. Finally, the status of individual target elements at the end of the game is presented and discussed.

Subroutine TABLES

Figure 4-1 contains typical hard copy output generated during execution of Subroutine TABLES. The first two lines are card images of parameter values contained on Data Card Types 2 and 3. The third line informs the reader that all data, entered by this subroutine, have been properly loaded into the program.

0.00 1.00 25.00 .30 1.00 4.00 0.00 , 41 TABLES EUADED PROPERLY

FIGURE 4-1. Subroutine TABLES Typical Hard Copy Output.

Subroutine SYSTEM

Figure 4-2 contains 34 lines of typical hard copy output generated during execution of Subroutine SYSTEM. The output consists of data taken from Data Card Types 26b through 26e. Each set represents one of the eight friendly weapon systems in the game. The next two lines are used to indicate the number of weapon systems being played and inform the reader that all data entered by this subroutine have been properly loaded into the program.

1200.30	6.33	6.00	4.30	23.00	1.30	30.00	8.00	2.00	1200.00
83.00	12.03	1.00	1.00	2.00	5.00	27.00	5.40	27.00	5.00
27.30	1530.00	800.00	2000.00			2000.00		5000.00	.05
.20	.40	.40			•				•••
3100.20	4.30	3.00	2.00	40.00	1.00	34.00	5.00	2.00	850.00
100.00	12.00	1.00			5.00		5.00		5.00
27.00	1>30.00		10300.33					2500.00	. 05
: 30	.50	.20							• • • •
4000.20	2.03	. 20	.33	3.00	2.00	60.00	1.00	20.30	30.00
2.00		1.00	1.00		3.00		3.00		3.00
27.00		200.00			3000.00			99994.00	.20
. 35		.80	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	300100	3000100.		0.00	,,,,,,,	• 2 0
5000.23	2.00	24.00	24.11	1030.60	2 00	25.00	12.00	15.00	90.00
16.33	12.30	1.00	12.33	1.00	3.00		3.03		3.00
27.00	600.00		10000.30					9999.00	. 20
.13	.35	.25	10000.30	1000.00	4300130	7000.30	0.00	000.00	20
12000.23					2 22			20.00	
	1.00	1.00	1.00	1.00	2.00		1.00		10.00
6.31	v.00	30.00	0.30	1.00	0.33	0.00	0.00	0.00	0.00
3.30	0.00	0.00	0.03	0.00	0	u. 3C	0.00	0.00	0.00
0.00	0.00	0.00							
13000.10	6.53	1.50	6.00	1.00	1.00	30.00	15.00	2.30	900.00
303.30	0.00	1.20	0.00	2.00	0.30	0.00	0.00	0.00	0.00
3.00	0.00	0.00	0.33	0.03	00	0.30	0.00	0.00	0.00
0.00	0.00	0.00							
14000.20	6.33	40.00	. 40.00	40.00	2.00	16.00	1.00	20.00	240.00
720.60	0.00	. 90	0.00	1.00	U.00	0.00	0.00	0.00	0.00
0.00	U.J3	0.00	.0.03	0.00	0.30	0.00	0.00	0.00	0.00
2.03	U. 0J	0.00							
17000.30	6.00	2.00	8.00	1.33	1.30	18.00	15.00	2.03	500.00
803.00	0.00	1.10	0.00	2.00	0.00	U.00	0.00	0.30	0.00
0.00	0.00	0.00	0.00	0.00	0.00	U. 0J	U.00	U.00	0.00
0.00	0.03	3.00							
8									
	SYSTEM	LUAULD PI	RUPERLY						

FIGURE 4-2. Subroutine SYSTEM Typical Hard Copy Output.

Subroutine ROUND

Figure 4-3 contains 16 lines of typical hard copy output generated during execution of Subroutine ROUND. The first line contains the value of the number of different type rounds to be entered as specified on Data Card Type 27. The next 13 lines contain values of the first seven values appearing on 13 Data Card Type 29. One round type does not appear because it is incompatible with all weapon systems entered into the program. The last two lines are used to specify that nine Blue round types are used in the current scenario and that all data, entered by this subroutine, have been properly loaded into the program.

14						
1201.3	160.	.300	16.5	.954	1.	1200.
1202.3	.081	.200	30.0	.750	2.	1200.
1203.3	.063	.115	17.3	.980	2.	1200.
1204.3	.101	2.970	17.0	.953	3.	600.
3101.2	.100	.453	23.3	.950	1.	800.
3105.2	.150	. 523	30.0	.950	2.	400.
3133.2	.100	.160	22.0	.980	2.	800.
4001.2	2.300	130.330	60.3	. 765	1.	Зΰ.
5001.2	.080	.990	25.0	.453	1.	90.
12031.2	1.000	1.000	80.0	. 750	1.	10.
13331.1	1.303	1.000	30.0	.970	2.	900.
14001.2	1.000	1.000	16.0	.980	2.	240.
17001.3	1.000	1,000	18.0	.950	2.	500.
,	AJUNO I	LUAUED PAO	PERLY			

FIGURE 4-3. Subroutine ROUND Typical Hard Copy Output.

Subroutine FUFDC

Figure 4-4 consists of five pages of typical hard copy output generated during execution of Subroutine FUFDC. The first line on page one contains the value for the number of friendly battalions in the game taken from Data Card Type 41. The second line, illustrates two site locations and zero battalions for Divarty FDC, as entered from Data Card Type 42. The third and fourth lines contain arrival and departure times as well as x- and y-coordinates of the sites as entered from two Data Card Type 43.

Lines five through seven contain the same type of information for Group FDC. The remaining lines on page one, Figure 4-4, as well as pages two, three, and four, contain battalion FDC site information and battery site information for all friendly battalions and batteries in the game. Data are entered via proper combinations of Data Card Types 42, 44, 45 and 46. The last two lines on page four, Figure 4-4, are used to specify that 23 batteries and 10 FDCs in the friendly force have 100 tubes available at the start of the game.

Page five of Figure 4-4 contains values for the number of points (10) per FEBA trace, the number of FEBA traces, and the x- and y-coordinates of the points. These values are entered from Data Card Type 54 and 20 Data Card Type 55.

```
DIVARTY FOC
    0.00 375.00
                           01.00
                                        63.00
                                        57.00
 920.00 1700.00
                           34.00
                                                CORPS FOC
                                        70.00
    0.00
             0/0.00
                                        64.00
 715.30 1700.03
                            54.00
                    BN FDC BN1 XM155 DS
           3
 0.00 160.00
183.00 270.00
180.00 270.00
100.00 270.00
610.00 960.00
990.00 1170.00
                                        72.43
                          62.00
                            61.63
                                        71.43
                            58.53
                                        71.50
                                         71.33
                            58.03
                            35.0U
                                         69.53
1120.00 1480.00
                            31.3U
                                         68.50
1500.00 1030.00 51.20
1 MB NI 2431148E
                            51.20
                                         66.13
                      B BTRY BNL
           J
                                                 XM155 DS
1200.33
 100.00 160.00
100.00 270.00
300.00 370.00
610.00 950.00
                                         72.43
                                                       4.00
                            62.03
                            58.50
                                         71.90
                                                       4.00
                                         71.20
                                                       8.00
                                                     10.00
                            56.00
                                         71.30
993.33 1170.00
1120.03 1480.03
1503.03 1630.00
                            51.50
51.50
                                        69.50
                                                       8.30
                                        66.33
                                                       8.00
                                        66.10
                                                       4.00
                      A BINY BAL
           0
1200.33
                                                       4.00
    J.00 140.03
                                        73.90
                            63.20
  160.00 250.60
280.00 570.00
                            63.33
                                         73.40
                                                       4.00
                                         73.00
                            60.00
                                                       8.00
930.00 1133.60
1180.00 1460.00
1480.00 1630.03
                                         72.80
                            29.50
                                                      10.00
                            56.33
                                         71.00
                                                       4.00
                            33.00
                                        70.00
                                                       4.00
                                         64.63
                                                       4.00
                       C STRY BN1
1200.30
                                                 XM155 05
           3
  0.00 140.00
                                         75.40
                                                       4.40
                            65.00
140.00 230.60 84.80 74
260.00 300.00 61.00 74
370.00 910.00 61.00 74
960.00 110.00 58.00 72
1460.00 150.00 54.20 73
2 8N FDC 8N2
2,00 110.00 67.20 67
270.00 400.00 60.50 67
270.00 100.00 60.50 67
270.00 110.00 67.20 67
270.00 100.00 60.10 67
270.00 100.00 60.10 67
270.00 100.00 60.10 67
270.00 100.00 60.10 67
270.00 100.00 60.00 60.00 60
1340.00 1310.00 61.70 61
1340.00 1310.00 60.50 60
38ATTERYS IN BN 2
                                         74.93
                            64.80
                                                       4,00
                                         74.50
                                                       8.00
                                         74.30
                                                      10.00
                                         72.50
                                                       4.00
                                         71.50
                                                       8.00
                                         71.40
                                                       4.60
                                            XH155
                                                        Ù S
                                        05.60
                                         05.13
                                         65.10
                                         64.90
                                         64.60
                                         03.20
                                         02.50
                                                   XM150 DS
                                    3N2
1203.30
    0.00 110.00
                            67.20
                                        65.60
                                                       8.30
  130.00 250.00
                            67.00
                                         65.10
                                                       6.00
              400.00
                                         65.10
                                                       5.00
  273.33
                            00.50
  423.30 710.00
                            50.10
                                         54.90
                                                       4.00
  740.00 1130.00
                                         64.63
                                                      12.00
                            62.03
1130.00 1310.00
                            61.70
                                         63.50
                                                      10.00
1340.00 1630.00
                            36.20
                                         62.50
                                                      12.00
```

FIGURE 4-4. Subroutine FUFDC Typical Hard Copy Output (Page 1 of 5).

```
3
               A STRY BNZ
                              XM150 DS
1233.30
   0.33
          i.ii
                  68.70
                           67.13
                                    8.40
 110.00
        230.00
                  68.50
                                    6.00
                           60.00
 250.33
        380.00
                  68.00
                           05.64
                                    J.00
 430.03 690.03
                  07.60
                           05.40
                                    8.33
 723.30 1030.00
                  63.50
                          55.10
                                   12.00
1110.00 1290.00
                  63.20
                          65.00
                                   13.00
1320.00 1530.00
                  50.00
                          54.00
                                   12.00
               C BIKY BNZ
                               XM155 0S
1200.30
   0.33
          73.30
                  70.20
                                    8.00
                          60.60
  90.33
        215.40
                  70.00
                          63.10
                                   0.30
 230.00
        363.03
                  59.50
                                    5.00
                          50.10
 380.00 670.00
                  64.14
                          67.90
                                    8.00
 700.40 1000.03
                  05.00
                          67.60
                                  12.00
1090.00 1273.00
                  64.70
                          66.jO
                                   10.00
1300.00 1650.00
                  39.50
                          05.50
   6
      3
              BN FDC BN3
                             XM155
 370.03 613.03
                  70.50 -
                   73.30
                           57.30
 633.33 643.03
                  69.80
                           57.10
 723.33 993.33
                  67.00
                           50.00
1103.00 1240,00
                           55.70
                  65.60
1320.00 1630.00
                  63.50
                          35.70
   MB NI ZYSSTTAEE
   6
       0
               ENE YATE &
                               XH155 0$
1200.30
   3.33 353.33
                   70.00
                          27.83
                                    6.00
 370.00 613.00
                  70.30
                          27.30
                                    3.00
 630.00
        640.00
                                    4.00
                  59.80
                          57.10
 720.00 990.00
                  67.00
                                    5.03
                          56.00
1100.00 1240.00
                  60.50
                          55.73
                                    8.00
1320.00 1630.00
                  03.20
                          55.70
                                    8.40
               A STRY BN3
1200.31
   3.00 330.00
                  72.03
                          59.33
                                   6.33
 353.00 570.00
                  71.00
                          28.80
                                    5.00
 610.00
         013.03
                   /1.30
                                    4.00
                          23.63
                  53.50
                          57.50
 990.00 1273.00
                  64.10
                          57.23
                                    8.00
1300.00 1630.00
                  00.00
                                    6.00
        O
              C BIRY BN3
                               AM155 05
1200.30
   3.00 3.0.03
                  73.50
                          60.80
                                   6.00
 330.00
        570.00
                  73.30
                          05.33
                                   5.00
 593.43
         003.03
                  72.80
                          6v.10
                                    4.00
 60.00
        950.00
                  70.00
                          59.03
                                   5.00
 473.30 1253.63
                  04.60
                          58.76
                                   8.40
1290.00 1030.03
                  66.30
                          od.70
                                   0.00
       3
              BN FOC BN+
                               MIZBA4 RETHE TO BH 2
 0.00 540.00
                  07.70
                  07.20
                          07.30
 613.06 893.33
                  67.00
                          67.14
 910.00 1170.00
                  60.50
                          06.00
1230.00 1630.00
                  62.50
   3datterys in BN 4
   5
        3
               B STRY BN4
                               M123A4 REINF TO 3N 2
3100.20
  3.30 170.04
                  57.70
                          67.80
                                  12.00
 193.30
        373.00
                  67.50
                          67.30
                                  12.00
610.00 890.00
                  67.30
                          67.13
                                   5.00
 913.00 1190.00
                  65.60
                          65.80
                                   5.00
                                   a.00
1233.35 1630.50
                  62.50
                          04.50
```

FIGURE 4-4. Subroutine FUFDC Typical Hard Copy Output (Page 2 of 5).

```
MIZBA4 REINF TO BN Z
       ۵
               A BTRY BN4
3100.20
   0.00
         190.00
                   66.20
                           66.33
                                   12.00
 213.60
         510.00
                   60.00
                           65.33
                                   12.00
 630.30 910.60
                   65.50
                           65.00
                                    5.00
 933.00 1220.03
                  65.10
                           05.30
                                    5.00
                  01.0u
1230.00 1630.00
                                    8.30
               C STRY BN4
                               MIZBA4 REINF TO BN 2
3100.20
   3.00 214.60
                  64.70
                           64.83
                                   12.40
 230.00 650.00
                  04.50
                           64.33
                                   12.00
 650.00 930.00
                                    5.00
                  64.03
                           64.13
 950,00 1240,00
                                    5.00
                           63.60
                  63.00
                                    8.00
1270.00 1535.00
                  54.50
                           51.50
                               E NE DI HZD +AESIN
               BN FOC BND
   Ó
       3
 250.00 520.00
                   75.00
                           29,33
                   75.40
                           58.80
 973.03 1240.03
                   71.60
                           56.20
1250.06 1410.60
                  71.33
                           55.80
1440.00 1630.00
                  05.30
                           26.33
   3BATTERYS . IN BN
               B STRY BNS
                                M123A4 GSR TO BR 3
        U
3100.20
   U.OG 230.UO
                                    4.00
                   75.60
                           59.30
 250.00 520.00
550.00 950.00
                   75.40
                                    4.00
                           50.00
                           50.00
                                    4.00
 970.00 1230.00
                  71.60
71.30
                           56.20
                                    4.33
1250.00 1410.00
                                    6.00
                           55.dJ
1440.00 1530.00
                   66.33
                           56.33
                                    6.00
               A STAY BAS
                                M123A+ GSR TO BN 3
3100.20
        213.00
   3.33
                   74.10
                           27.8u
                                    4.00
 230.00
        600.00
                   71.90
                           57.33
                                    4.00
 630.03 433.33
                   70.00
                           55.03
                                    4.00
 920.00 1210.00
                   70.10
                           54.70
                                    4.00
1233.00 1390.00
                  69.40
                           24.30
                                    6.00
1420.00 1630.00
                   64.80
                           54.80
                                    6.00
               C BIRY BN5
                               H123A4 GSR TO BN 3
3100.20
                           20.33
   3.33
         190.63
                   72.60
                                    4.00
 210.00 560.00
                           53.30
                   72.40
                                    4.00
 590.03 910.60
                           53.50
                   69.00
                                    4:00
 430.00 1190.00
                  68.63
                           53.20
                                    4.00
1210.00 1376.60
                  68.30
                           22.d0
                                    6.00
1400.00 1630.00
                  63.33
                           53.33
                                    0.00
               BN FOC BN6
                                FARSS
 210.00 463.00
                  63.60
                           70.50
                   60.63
                           70.30
 440.43
        810.03
                  60.10
                           09.80
 830.00 940.00
                  59.73
                           69.50
 970.00 1190.00
                  50.50
                           67.00
1220.03 1430.03
                   55.50
                           66.50
1460.00 1630.00
                  :3.70
                           66.70
   BATTERYS IN BN 6
   7
        ٥
               B BIKY
                        HNA
                                FARSS
                                         G. AI D/A
5000.20
  3.33 140.00
                  60.63
                           13.23
                                    8.00
 517.00
        463.00
                  61.63
                           70.04
                                    6.40
 483.33 810.00
                  60.10
                           64.80
                                    8.00
 830.00
        440.60
                  59.70
                           69.50
                                    6.00
 973.33 1190.00
                           69.03
                  36.50
                                    3.03
1223.33 1430.00
                  55.50
                           06.20
                                   10.00
                  53.70
                           56.70
                                    4.00
```

FIGURE 4-4. Subroutine FUFDC Typical Hard Copy Output (Page 3 of 5).

```
A BTRY BN6
                                     FARSS
                                               GS AT D/A
5000.20
   0.33
          175.05
                     52.36
                               72.00
                                         8.03
 193.33
          440.00
                     62.10
                               71.50
                                         6.00
          740.00
 463.30
                     61.60
                                         8.00
                               7..30
 810.00
          420.00
                     61.20
                               71.00
                                         6.00
 920.00 1173.03
                     28.40
                               10.50
                                         5.03
1200.00 1410.00
                     57.00
                              68.00
                                        10.00
1440.00 1630.00
                     55.20
                              58.20
                                         4.00
                 C BTRY BN6
   7
                                   FARSS
                                               US AT DIA
5000.20
   0.00
         150.00
                     63.80
                              73.50
                                         8.00
 170.00
          420.00
                     63.60
                              73.00
                                         6.00
 440.03 770.00
                              72.80
                     63.10
                                         9.00
 793.33 +30.03
                     62.70
                              72.50
                                         5.30
 930.00 11:0,00
                     34.50
                              72.00
                                         5.00
11au.ú3 1390.u3
1420.0ú 1530.00
                     )c.3c
                              04.53
                                        10.00
                     55.70
                              69,70
                                         4.00
5 3 3

0.00 480.00

500.00 750.00

780.00 1120.00
                 BN FOC BN7
                                   412344
                                               GAR TU DAA FROM CORPS
                     63.0v
                              71.00
                     64.60
                              70.50
                     54.30
                              72.50
1140.00 1310.00 54.0
1330.00 1530.00 53.
38ATTERYS IN BN 7
                     54.00
                              72.30
                    53.70
                              71.90
   5
        Ĵ
                 3 STRY BN7
                                    M123A4
                                                GSR TO D/A FROM CORPS
3100.20
   3.35 485.05
                     65.00
                              71.00
                                         7.00
 500.00 750.00
780.00 1120.00
                     64.80
                              70.50
                                         3.00
                     54.50
                              72.54
                                        11.00
1140.00 1310.00
1330.60 1630.00
                     54.00
                              72.30
                                         4.00
                                        7.00
                     53.70
                              11.90
         3
                 A BTRY BN7
                                    H123A4
                                                GSR TO U/A FRUM CORPS
3100.23
 0.00 453.30
480.00 730.00
                     63.43
                              59.50
                     03.30
                              69.00
                                         3.00
760.00 1100.00
1120.00 1240.00
                    .53.00
                              71.00
                                        11.00
                                         4.00
                    52.50
                              73.83
1310.00 1030.00
                     22.20
                              73.40
               C BIRY BNI
   5
        0
                                   M123A4
                                                GIR TO DIA FROM CORPS
3100.20
   U. U.
          440.00
                     62.00
                              68.00
                                         7.00
 463.00 713.03
740.00 1500.03
                    61.80
                              67.50
                                        3.00
                    21.50
                              69.50
                                       11.00
1130.00 1270.03 1290.00 1630.00
                              69.30
                     51.00
   0.00 10 BN FC.
0.01 1630.00 57.50
20417648 N BN B
                     56.70
                              68.90
                                         0.00
                                 SPEAK
                                           GS AT CURPS
                              65.00
                                         GS AT CORPS
                                 SPEAR
4000.20
   0.00 1633.00
                    27.50
                              00.00
                                        0.00
                B BIRY BNB
                                 SPEAR
                                           GS AT CURPS
4000.20
   3.33 1653.03
                    65.00
                              25.03
                                        0.00
      10
          FORSIZ .
                        100.4
```

FIGURE 4-4. Subroutine FUFDC Typical Hard Copy Output (Page 4 of 5).

10 10	1								
55.00	83.00	69.00	77.03	73.00	74.00	74.00	71.0u	76.00	68.00
78.33	55.00	79.00	62.40	80.30	24.00	74.30	50.40	79.00	53.00
65.00	80.33	66.00	77.00	68.00	74.00	71.30	71.00	73.00	68.30
73.30	03.00	76.00	62.43	77.00	54.00	79.00	56.00	79.00	53.00
64.50	80.03	64.30	77.00	67.00	74.63	70.30	71.00	72.00	68.00
73.00	65.00	76.00	62.03	76.00	54.00	74.40	\$6.00	79.00	53.00
64.30	04.04	64.03	77.40	66.33	74.00	70.00	71.00	71.60	68.00
73.00	05.00	75.00	62.00	75.00	59.00	79.03	56.00	79.00	53.00
63.00	øÚ.00	64.00	77.00	66.00	74.60	70.00	71.00	71.00	68.00
73.30	25.33	75.03	62.00	75.00	59.00	76.00	36.00	76.00	53.00
62.33	00.03	63.00	77.00	64.00	74.60	69.30	71.00	70.00	68.00
72.55	65.00	71.00	62.00	74.00	39.00	72.00	56.00	75.00	53.00
61.00	80.00	62.50	71.00	61.50	74.00	64.00	71.00	70.00	66.00
72.30	09.00	73.00	02.00	74.00	94.00	79.00	56.30	75.03	23.33
51.00	80.00	62.00	17.60	53.00	74.00	61.00	71.00	45.00	68.00
70.00	62.04	72.00	62.43	72.00	59.43	73.00	56.70	75.00	53.00
60.03	60.33	61.00	77.00	\$8.00	74.03	29.00	71.00	01.20	68.3C
69.30	05.40	74.00	62.00	/1.00	54.03	72.30	56.00	75.00	23.00
63.30	90.03	61.03	77.33	57.03	74.00	58.00	71.00	34.00	49.00
65.40	05.00	73.30	62.03						
07.00	47100	13100	05.03	70,00	59.00	71.33	26.00	15.00	53.00

FIGURE 4-4. Subroutine FUFDC Typical Hard Copy Output (Page 5 of 5).

Subroutine WPMIX

Figure 4-5 presents typical hard copy output generated during execution of Subroutine WPMIX. The first line is a card image of Data Card Type 57 and the second line is the value for the number of friendly battalions in the game. Lines three and four contain priority values for the 23 friendly batteries taken from Data Card Types 58a and 58b. These lines are followed by four lines of values of placement numbers for 1) lateral backup of FDCs, 2) reinforcing FDCs. 3) general support reinforcing FDCs, and 4) fire plan assignment of FDCs. These values are entered from Data Card Types 59 through 62 respectively. The next line is a card image of tactical echelon identification numbers that appear on Data Card Type 63.

The next 23 lines contain values computed from Data Card Type 26d information for each weapon system entered during execution of Subroutine SYSTEM. The eight columns of 23 lines contain the following information:

- Column 1 fire unit number
- Column 2 randomized number of equivalent full charge rounds fired toward next short-term tube failure
- Column 3 randomized number of equivalent full charge rounds fired toward next long-term tube failure
- Column 4 randomized number of equivalent full charge rounds fired toward next permanent tube failure
- Column 5 randomized number of EFC rounds fired toward next tube change

- Column 6 randomized number of kilometers traveled toward next short-term mobility failure
- Column 7 randomized number of kilometers traveled toward next long-term mobility failure
- Column 8 randomized number of kilometers traveled toward next permanent mobility failure

Lines 33 through 37 are ordering values for as many as 14 friendly battalions based upon battalion tactical echelon identification numbers and these values are computed during execution of this subroutine. These lines are followed by a card image of Data Card Type 64 which contains values identifying the type of computer at each of the 10 FDCs in the game.

The following 32 lines are card images of Data Card Types 65a through 80b which contain transmission times and processing time values for various missions and operative status of computers. The last two lines, card images of Data Card Types 81 and 82, contain data concerning FDC equipment failures and are the last two lines of hard copy output generated during execution of Subroutine WPMIX.

3.	0010 .00	10 .031	0 .0316	.0010	.0010	. 6010 . 6	010 .00	010 .0010	2.000 .500	2
1.	1. 1.		1. 1		1.	1. 1.	1.	1, 1,	1. 1.	1.
ž:	1. 1.		1. 1		7.	Lo. d.			•	•
ð. ·	4. 3.	0.	6. 0	. 0.	٧.	3. 3.				
0.	2. 1.		1. 7		٥.	0, 0,				
1.	1. 1.		4 9		1. 6.	1. 2.				
1	602.	3(52.	1310.	142	15.	852.	786.	031.	
2	323.		33.	501.	116		315.	832.		
4	128U. 974.		45. 50.	526. 316.	221		764.	107. 314.	1323. 1000.	
5	411.	. j	03.	1345.	176		413.	797.	1235.	
7	1412.		21.	757. 1770.	. 67		426.		1161.	
6	1239.	4 6	•.			2.	943.	972.	1346.	
9	197. 750.		76. .4.	1216.	119	1.	721.	60.	1146.	
11	172.		57.	6925.	10 /		200. 824.	179. 70.	1997. 580.	
12	647.		57.	1704. 1216. 6093. 6925. 1970.	. 109	1.	804.	450.	4793.	
13	159. 1311.		74. 17.	528. 2961.		6.	117.	250. 284.	4984. 2595.	
15	47.	137	73.	2244.	3/1	9.	419.	36.	5914.	
16	125. 209.			8940. 5877.		٥.	284.	999.	5123.	
19	239. 133.		33.	7259.		0.	219.	3644.	3642. 1789.	
19	1222.	76		2464.			940.	717.	7767.	
20	908. 1004.			1672.		4.	652. 950.	2.1. 359.	4312. 7941.	
22	64.		.5	37.	2865		187.	738.	22499.	
23	68 . 7. 5.		.5.	59.			151.	2003.	10606.	
6.	7. 5. 5. 1.		2. 3.		0.	0. 0.	0.	0. 3. C. 2.	6. 5.	
8.	7. ú.	U.	0. 0.	. 0.	o.	Ú. O.	U.	J. O.	2.	
8.	1 1		1		Ö,	0. 0.	6.	ů. Ú.	1.	
24										
	.27	. 80	1.07	1.03	1 55	1 .60	.60	.60	.25 .25	i
. 33	.27	.80 5.30	1.07	1.03	, 55 , 25	.60	.14	1.07	.38	
1.00 1.65	.27 .33 .33	.80 5.30 1.25 13.00	1.07 6.00 1.47 0.00	1.03 .25 1.45	.55 .00 06.	.60 .24 4.30	4.00	1.07 4.00 2.02	1.31 1.31 .73	
1.00 1.65	.27 .33 .33 1.65	.80 5.90 1.25 13.00 1.00	1.07 6.00 1.47 0.00 1.27	1.03 .25 1.45 .65	1.00 1.00 1.00	.60 .24 4.30 .24	4.03 .35 .60	1.07 4.00 2.02	.36 1.31 .73 .25	
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1.005 .23 1.005 .24 1.00 1.62 .23 1.005 .23 1.005 .23 1.005 .23 1.005 .23 1.005 .23 1.005	2335733573357335733573357335733573357335	.80 5.25 13.20 1.52 13.20 1.52 13.20 1.52 13.20 1.52 13.20 1.52 13.20 1.52 13.20 1.52 13.20 1.52 13.20 1.52 13.20 1.52 1.52 1.52 1.52 1.52 1.52 1.52 1.52	1.01-0.27-07-07-07-07-07-07-07-07-07-07-07-07-07	1.0351.6501.6501.6501.6501.6501.6501.6501.65	5200538005500038005500058 5200532005320058 1	04040404040404040404040404040404040404	4	1.0027 1.0027 1.0027 1.00207 1	1.31 1.31 .73 .25 .25 .38 1.31 1.31 .73 .25 .25 .38 1.31 1.31 .73 .25 .25 .38 1.31 1.31 .73 .25 .25 .39 1.31 1.31 .73 .25 .25 .39 1.31 1.31 .73 .25 .25 .39 1.31 1.31	

FIGURE 4-5. Subroutine WPMIX Typical Hard Copy Output.

Subroutine REDIN

Figure 4-6 presents typical hard copy output generated during execution of Subroutine REDIN. The first line is used to specify the number of enemy systems in the game. This information, followed by a card image of Data Card Type 83, is used to specify Red weapon system ordering for counterbattery fire missions.

The next four lines contain three values each, one line for each enemy system in the game. The first two values on each line are entered from Data Card Type 84 and the last value is used to specify the round ordering number for the system. The remaining lines represent Red battalion data taken from Data Card Type 85. One card represents each battalion. The fourth value on each line has been incremented by the number of different type Blue weapon systems in the game and places the Red battalion weapons systems in proper order for counterbattery fire missions. The last line, which contains 9999.0000 as its first value, is used to indicate that all data cards have been entered into the program.

4						
1432	4132		•			
1.0000	1.0000	10.0300				
2.0000	2.0000	11.0000				
4.3333	1.3333	12.4400				
5.0000	12.0000	13.0000				
755.6000	4.0000	1.0000	5.0003	1.0000	0.0000	. 5.0000
931.3055	3.3030	6.0000	6.0303	5.0000	0.0000	1.0000
902.0000	3. J000	6.0000	6.4000	8.0000	0.0000	1.0000
763.3333	3.0000	6.0000	7.0000	11.6000	0.0000	2.0000
753.0000	3.3000	6.3333	8.0000	14.0000	0.4004	1.0000
844.0000	3.3000	6.0000	8.0000	17.0000	0.0000	1.0000
9-3.6000	3.0000	6.0333	8.3000	20.0000	0.0000	2.0000
934.3033	3.0000	6.0000	8.3000	23.0000	0.0000	2.6000
745.0000	1.0000	0.3.00	0.0330	26.0000	0.0000	1.0000
715.3033	1.0000	6.3000	8.0000	27.0300	0.0000	1.0600
725.0000	1.0000	6.0000	a.0000	28.0000	0.0336	1.0000
751.0303	3.3000	6.0000	8.0000	29.0000	0.0000	1.0000
752.3001	3.0000	6.0000	8.0000	32.0000	0.0000	1.0000
406.0000	1.3000	6.0000	8.0000	35.0300	3.0306	3.0000
841.0303	3.0000	6.0000	8.03.3	36.6300	0.0000	1.0000
542.0303	3.0000	6.0000	6.0000	39.0000	0.0000	1.0030
9949.0000	0.0000	0.0000	4.0000	0.0000	0.0000	6.6000

FIGURE 4-6. Subroutine REDIN Typical Hard Copy Output.

SCENARIO RESULTS

Hard copy output is generated during execution of Subroutine OUTPUT at the end of each hour of game time. Figure 4-7, consisting of five pages, contains scenario results after 27 hours of game time. A discussion of these results, page by page, is presented in the paragraphs that follow.

Page 1 of 5

The first line of hard copy output is used to specify that the results are for the 27th hour of the game: the scenario is a sample case. This is followed by title and column headings for the friendly battalions and an overall total column. With only eight friendly battalions in the scenario, the columns for battalions 9 through 11 contain zero values. The next nine lines of print contain the following information:

- 1. Military worth of Red targets attrited by artillery fire
- 2. Number of Red personnel attrited by artillery fire
- 3. Number of Red tanks attrited by artillery fire
- 4. Number of Red APCs attrited by artillery fire
- 5. Number of Red trucks attrited by artillery fire
- 6. Number of Red artillery tubes attrited by artillery fire
- 7. Number of Red radar systems attrited by artillery fire
- 8. Number of Red antiaircraft missile launchers attrited by artillery fire
- 9. Number of battery fire missions completed

The next set of data identifies the number of defeated Blue batteries up through the current game time. These data are followed by values for the number of rounds fired by each battalion, and the total number of rounds fired for each of the nine round types in the Blue force. A summary of total rounds fired by each battalion, total rounds fired, total weight in metric tons of rounds fired, and total cost in kilodollars, is presented. The remaining information pertains to CLGP results, and to unaccomplished fire missions. The results are self-explanatory.

Page 2 of 5

The first set of data pertains to the number of fire missions, the number of defeated missions, and the artillery military worth of the defeated missions for observed, non-observed, and fire plan missions at four military worth ranges. The totals for the four military worth ranges appear in the last column of each line. The next set of data, on page two, pertains to fire plan missions; the printed output is self-explanatory and no discussion is required.

The third set of data presents time summations for 10 FDCs and 23 batteries of the Blue force. The row and column headings for this set of data preclude the necessity for any discussion of the output (% busy is for most recent hour only; busy time and idle time are cumulative). The last set of information pertains to rounds fired at each of 30 range values in one kilometer increments. After the column heading, information for each different round type appears in a set of three lines. The first

line identifies the round type and the number of rounds fired at the indicated battery to target ranges. The second line again contains the round type and the number of rounds fired at the indicated FEBA to target ranges. The last line of the set contains the total number of rounds of this type that were fired. There are four sets of this type of information for four different round types appearing on this page.

Page 3 of 5

The first 15 lines are five sets of data, three lines each, containing round/range data for the five remaining round types in the Blue force. Next there are title and column headings for systems with ranges greater than 30 kilometers. For the sample problem scenario, no systems of this type exist, consequently no data of this type appears on the hard copy output.

The last set of data appearing on this page contains reliability/ attrition information. Values are clearly identified and no discussion of the printed output is required (read by Blue battery, Battery 1 first in each row, Battery 2 second, etc.).

Page 4 of 5

This page contains the data breakdown for up to 11 system types in the Blue force plus a summary of systems with a common caliber. The column headings identify the 11 possible systems that can be played in a scenario. Each column contains the following information:

- 1. Military worth of Red targets attrited
- 2. Number of Red personnel attrited
- 3. Number of Red armor (tanks and APCs) attrited
- 4. Number of Red trucks attrited
- 5. Number of Red artillery tubes attrited
- 6. Number of Red radars attrited
- 7. Number of Red missile launchers attrited
- 8. Number of battery fire missions completed by system type
- 9. Number of rounds fired by system type
- 10. Weight in metric tons of rounds fired
- 11. Cost in kilo-dollars of rounds fired
- 12. Number of incoming fires received by system type
- 13. Number of tubes out due to attrition
- 14. Number of tubes out due to RAM
- 15. Number of tubes up at present time
- 16. Average fractional value of original number of tubes available at present time

The last three lines appearing on this page contain values of military worth hours, average force availability, and hourly force availability respectively.

Page 5 of 5

The last page of Figure 4-7 contains the breakdown for General Support Rocket Systems in the Blue force. For the sample problem, only Battalion #6 was equipped with GSRS and therefore its data values and the total data values are identical. The column headings clearly identify the data appearing therein and no further discussion of output is required.

INDIVIDUAL RED TARGET DATA

At the end of the game, values of the two-dimensional DAMG array and a damage level flag are printed. Figure 4-8 is a typical hard copy output of part of the data. The following information appears in each line of output:

- Individual Red target element ID number
- Fractional value of personnel survivors after artillery fire Fractional value of tank survivors after artillery fire Fractional value of APC survivors after artillery fire
- Fractional value of truck survivors after artillery fire
- Fractional value of artillery tube survivors after artillery fire
- Fractional value of radar survivors after artillery fire
- Fractional value of missile launcher survivors after artillery fire
- Original number of personnel in target
- Original number of tanks in target 10.
- 11. Original number of APCs in target
- 12. Original number of trucks in target
- 13. Original number of artillery tubes in target
- 14. Original number of radar systems in target
- Original number of missile launchers in target 15.
- 0.0 changes to 2.0 when cumulative damage from non-artillery and artillery fire results in critical target element damage greater than specified defeat level, i.e., a defeated target
- 17. Number of platoons in target

		TOTAL	14869.98	117-12	168.85	22.73	1.15	8.54				96					24.00	- 60	806	5207.51				••••	
		6N 11	000	000			0.00	000			00.00	00.0	0		00.0	00.0	00.00	00.0	00.0	00.0				C BUSY C OUT FDC BUSY FDC OUT	
		BK 10	000	9	5 6	90	0	9	•		00.0	00-0	000		000	00.0	000	00.0	00.0	00.0		ı		D/A FDC D/A FDC CORPS F	
		9 X	00.0	000		000	00.0	0									000	00.0	0.00	00.0		,	EASONS		
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FIGURE 4-7. Typical Hard Copy Output of Scenario Results (Page 1 of 5).

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FIGURE 4-7. Typical Hard Copy Output of Scenario Results (Page 2 of 5).

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5). FIGURE 4-7. Typical Hard Copy Output of Scenario Results (Page 3 of

ATA BREAKDOUR BY SYSTEM

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00.0		1053.19	0.00	0.00	00.0	0.00	44.47	00.0	30.98	.00.0	1053.19
0.00		272,32	0.00	0.00	00.00	00.00	22.46	00.00	.53	00.0	272.32
0.00		93.20	0.00	0.00	00.0	00.00	65.89	00.00	2.76	0.00	93.20
0.00		9.40	0.00	0.00	00.0	0.00	12,73	00.0	99	0.00	9.40
0.00	00.0		0.00	00.0	00.0	00.0	0.00	00.0		00.0	1.15
00.0		8.54	0.00	00.0	00.00	00.0	0.00	00.0	0000	00.0	8.54
00.0		436.00	00.00	00.0	00.0	00.00	137.00	00*0	1.00	0.00	436.00
0.00		7616.00	00.0	00.0	00.0	00.0	1753.00	00.0	24.00	0.00	7616.00
00.0		629.54	00.0	0.00	00.0	0.00	175,30		1.92	0.00	629.54
0.00		4398.14	00.00	00.0	00.0	00*0	785.61		23.76	0.00	4398.14
00.00		52.00	0.00	00.0	00.0	0.00	16.00	00.0	0.00	0.0	52.00
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MILITARY WORTH HOURS = 262310.11

AVERAGE FORCE AVAILABILITY . .9226

HUURLY FORCE AVAILABILITY - .970

FIGURE 4-7. Typical Hard Copy Output of Scenario Results (Page 4 of 5).

HSM FRD	.000	0.00	1.000	0000	0.000	000-0	0.000	0.000	1.000
RD COST		0.000	23.760	000.0	000-0	0.000	0.000	0.800	23.760
VGT	000	0.000	1.920	000-0	0.00	0.000	0.000	0.000	1.920
2									
FIRED	0.000	0000	24.000	0.00	0.00	0000	0.00	0.000	24.000
202	, 8	9	00	8	00	8	8	00	8
LNCHRS	00000	00000	0.000	00000	0.000	000.0	00000	000°6	0.00
RADARS	0000	0.000	0.00	0.00	0.000	0.000	0.00	00000	00000
TUBES	0.000	0.000	.597	0.000	0.000	000.0	000.0	00000	.597
TRUCKS	000*0	0.000	2.764	0.000	0.000	000 * 0	00000	000.0	2.764
REAKDOWN APCS TR	.000*0	00000	.530	0.000	0.000	0000*0	00000	00000	.530
GSRS BREAK Tanks	00000	0.000	0.000	0.000	0.000	00000	00000	0.000	90000
PERS	00000	0.000	30.984	000.0	0.000	000 0	0.000	000000	30,986
HIL WIH	. 000*0	00000	42.239	00000	0.000	00000	00000	00000	42.239
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FIGURE 4-7. Typical Hard Copy Output of Scenario Results (Page 5 of 5).

- 18. ID number for type of critical element
 - = 1.0, personnel
 - = 2.0, tanks = 3.0, APCs

 - = 4.0, trucks
 - = 5.0, artillery tubes
 - = 6.0, radar systems
 - = 7.0, missile launchers
- 19. Artillery damage level ID number
 - = 1, 50.0% or more killed
 - = 2, 40.0% to 49.9% killed
 - = 3, 30.0% to 39.9% killed
 - = 4, 20.0% to 29.9% killed
 - = 5, 10.0% to 19.9% killed
 - = 6, up to 9.9% killed

The last three lines of printed output contain values for the number of Red targets at each of the six damage levels, the number of Red platoons at each damage level, and the total number of individual Red target units damaged (both as units and as equivalent no. of platoons).

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689	200	202	680	522	689	558	558	558	852	852	258	2 6 2 6	7 5 5	3 6	159	124	862	865	159	22	618	496	693	919	919	453	156	107	550	700	849	774	761	758	000	000	000	897	000	000	000	559	101	836	434	838	786	3	
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210	022	250	307	313	314	322	323	324	332	333	334	220	200	401	405	210	220	230	210	770	210	220	230	315	314	105	342	2	220	230	342	210	220	230	210	230	315	313	322	323	354	210	002	343	401	205	210)	
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FIGURE 4-8. Typical Hard Copy Output of Individual Target Statuses at Game's End.

SECTION 5

SAMPLE PROBLEM

This section contains card image listings of the punched card input data entered during execution of each of six different input subroutines of the AFSM Computer Program. The different types of card input data are discussed in considerable detail in Section 3 of this report. The card image listings are followed by computer generated output of selected input parameters, scenario results after 9, 18, and 27 hours of game time and, finally, individual target statuses at the end of the game. The computer generated output is discussed in detail in Section 4 of this report.

SAMPLE PROBLEM CARD INPUT

Six different subroutines are used to enter punched card input data required for execution of the AFSM Computer Program. Figure 5-1 contains a card image listing of punched card data entered upon execution of Subroutine TABLES. The parameters are defined in descriptions of Data Card Types 1 through 23, Section 3.

Figure 5-2 contains a card image listing of Data Card Types 24 through 26e, entered during execution of Subroutine SYSTEM. The five pages of Figure 5-3 represent a card image listing of Data Card Types 27 through 40, entered during execution of Subroutine ROUND.

The card image listing for Data Card Types 41 through 56, entered during execution of Subroutine FUFDC, is presented in Figure 5-4. Figure 5-5 contains the card image listing for Data Card Types 57 through 82 as entered during execution of Subroutine WPMIX. The final card image listing for Data Card Types 83 through 87, entered during execution of Subroutine REDIN, is contained in Figure 5-6.

SAMPLE PROBLEM OUTPUT

The first printed output generated by the AFSM Computer Program contains values of selected input parameters entered during execution of the six input subroutines. The seven pages of values of selected input parameters are contained in Figure 5-7.

After the values of the selected input parameters are printed and if no errors cause a halt in program execution, scenario results are printed at the end of each hour of game time. Five pages are printed at the end of each hour and the results are cumulative as the game progresses. The sample problem is terminated after 27 hours of game time and the complete output is extensive.

In lieu of a complete output, scenario results are presented for game times of 9, 18 and 27 hours (end of game). Figures 5-8 through 5-10 contain the scenario results at the aforementioned game times.

At the end of the game, the status of each individual target element is printed. The status for each individual target element in the sample problem, is presented in Figure 5-11. This is the final type of output generated during execution of the AFSM Computer Program.

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SAMPLE CASE
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2. 10. 6. 30. 8. 16.

700 1100 1200 1300 1400 1500 2000 3100 4000 5000 5100

700 1100 1200 1300 1400 1500 2000 3100 4000 5000 5100 T0T155

M WTH PERS ARMOR TRUCKS TUBES RADARS LNCHRS BTYMSN RD FRO RD WGT RUCST
INFIRE ATTRIT RAMS TUBSUP AVG AV
190. 1.4375 .00019 470. 270. 2.687>-.008649 600. 310. 3.625
-.004929 900.
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                                         51.0
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 215.0
              151.0
  1000.
             325.
                       335.
 360.
            800.
                     1330.
                                 1530.
```

FIGURE 5-1. Sample Problem Card Input From Subroutine TABLES (Data Card Types 1 through 23).

•	4								
1	1 1	1 0 XM155	1	1 1	1		T		
1200.3	6.00	6.00	4.00	50.00	1.00	30.00	8.00	2.60	1200.
27.0	18.0	1.0	400	E + 0	1.0 100ù	27.0	9 . 0	27.Q	1200.
		. 400			10001		714	1000.	.090
3100.2	4.00	1.00	4 W/ CHG	60.30	1.03	30.60	5.40	₹.06	844.
100.	12.0	1.0	1.0	8.0	1.0	30.60 27.0 10000.	5.0	27.0	5.0
.300	1500.	1900. 1	0000. 1	000.	1000.	10000.	3.0	2900.	.090
4000.2			MISSILE						
2.00	2.60	1.00	1.00	1.00	3.00	63.00 27.03	3.00	27.00	30.
27.00	99.03	200.00	400.00	300.00	1000.00	30600.00	0.0	99999.	.200
.050 FIELD	.150	.800 RY ROCKET .	SUPPORT	SYSTEM	FARSS	MULTIPLE	ROCKET I	AUNCHER	•
5000.2	2.	24. 1. 4000. 1	24.	1000.	3.	25.	12.	15.	90.0
27.	600.	4000. 1	12.	1000.	4000.	7000.	3.	27.	3.
.100	.350								
11000.2	1.	1.	SCU	M-C	•	176		40	
2.00	••	1.	••	1.00	2.	113.	1.	0V+	6.
					•				
TOTAL	OVERKIL	L ARTILLE	RY DEVIC	E (TOAD-	-8) FREE	ROCKET			
12000.2	1.	30.00	1.	1.00	2.	80.	1.	20.	16.
		30,00		1.00		•			
•	140	MM GUN (TI	TWE D 1						
13000.1	6.	1.5	6.	1.	1.	30.0	15.	2.	900.
300.00	,	1.20		2.00		٠			
14000.2	6.	HM HULTII	40.	42.	2.	16.0	1.	20.	240.
720.00		0.90		1.30	-		- •		_ , , ,
17000.3		MM HOWIT:							
800.00		1.10	••	2.00	1.	18.0	17.	2.	500.

FIGURE 5-2. Sample Problem Card Input from Subroutine SYSTEM (Data Card Types 24 through 26e).

14								
• 1		XM67894	IN	XM155	IDUAL PL	JRPOSE IC	M ROUND)	
1201.3	.081	.350	16.5	.954 .6.	4.4	1200.	80.3	150.
0.	4. 11.	d.	12.	16.	16.5			
39.	39.	20 • 47 •	24. 75.	38. 123.	55. 154.			
.19	.19	47. .31	75. .66	123. 1.0 .95 10.0	1.0			
3.1	26.	5.0	.95	.95	0.0	92.		
80. 40.	50. 25.	5.0	3.0	10.3	20.0	3.0	100.0	167.0
30.	20.	3.0	3.0	10.0	9.0	3.0	80.0	167.0
		VM22407						
1202.3	.081	. 200	35.0	.950 20.	2.	1200.	80.	140.
12.	12.	10.	15.	20.	25.	30.	i	
26.	26.	46.	73.	46. 102. 1.0	142.	209.		
		.31	• 66	1.0	1.0	1.0		
100.0	100.0	80.0	90.3	900.	1200.	1200.		
10.0	10.0	40.0	45.0	450.	.20-	120.		
2.	2.	1.6	1.8	18.	24.	24.		
4.	4.	3.2	3.6	30.	48.	48.		
20.	2ũ.	16.	18.	140.	246.	240.		
80.	80.	66.	72.	720.	966.	960.		
300.	300.	240.	270.	1.0 900. 450. 90. 18. 30. 1d0. 27. 720. 2703. 450.	3600.	3630.		
50.	50.	40.	45.	450.	600.	600.		
25. 5.	50.	20.	22.5	225.	306.	300.		
1.	1.	.8	4.5	2700. 450. 225. 45. 90. 13.5 360.	12.	12.		
2.	2.	1.6	1.8	18.	24.	24.		
10.	10.	8.	9.	90.	120.	120.		
40.	1.5	1.2	1.4	13.5	486	18.		
150.	150.	120.	135.	1350.	1800.	1800.		
30.	30.	24.	27.	270.	366.	360.		
lż.	15.	12.	13.5	135.	100.	180.		
3.	3.6	4 • 4	2.7	5.4	30 ·	7.2		
1.2	1.2	1.0	1.0	10.8	14.4	14.4		
6.	6.	5.	2.7	270.	360.	36C.		
1.8	1.8	1.5	1.5	15.2	21.6	21.6		
80.	80.	75.	90.	430.	630.	600.		
)	M345H3	IN XM	1350. 270. 135. 27. 5.4 10.8 270. 16.2 180. 430. 155 (HE:	ROUNDI			
1203.3	.060	.115	17.3	.980	2.	1200.	80.0	148.
15.	15.	24.	34.	52.	62.			
32.	32.	55.	78.	114.	141.			
.19	.19	.31	.66	1.0	1.0			
800. 400.	400.	55. .31 620. 410.	415.	840. 420.	930.			
80.	30.	92.	34. 78. .66 830. 415. 83.	04.	90.			
20.	20.	92. 20. 50.	20.	21.	24.			
50. 500.	500.	500.	500.	530.	60.			
50.	20.	50.	50.	53.	60.			
1000.	1000.	1000.	1000.	1050.	1200.			
3000. 400.	3000. 400.	3000. 410.	300C. 415.	3180. 420.	3600. 450.			
200.	200.	205.	208.	210.	225.			
40.	40.	41.	42.	42.	45.			
10.	10.	10.	10.	10.	11.			
25. 250.	25. 250.	25. 250.	25. 250.	25. 250.	20. 220.			
25.	25.	25.	25.	25.	26.			
500.	500.	500.	500.	500.	⇒6C.			
1500. 300.	1530. 300.	1500. 367.	1500. 315.	1500. 315.	1620. 340.			
150.	150.	153.	158.	153.	170.			
30.	3ú.	3 i .	34.	32.	34.			
7. 14.	7. 14.	7. 14.	7. 14.	7. 14.	7. 14.			
140.	140.	140.	140.	140.	140.			

FIGURE 5-3. Sample Problem Card Input From Subroutine ROUND (Data Card Types 27 through 40)(Page 1 of 5).

14.	14.	14.	14.	14.	14.			
400.	400.	400.	400.	400-	400.			
1200.	1200.	14. 400. 1200.	1200.	1200.				
1204.3	.101	1 GP I	17.0	.953	3.	600.	40.	
	.00	.00 .2 .30 .40 .45 .60 1.20 1.40 1.80 8.	- 00	-00	-			
.00	. 35	.,	- 3					
.20	. 60	-30	-50	40				
.10	. 80	-40	. 55	. 70				
.40	1.00	. 45		. 80				
	1.60	.60	. 80	1.00				
1.60	2.50	. 80	1.20	1.50				
2.80 4.40 6.00	3.4 4.20 4.60	1.20	1.70	2-10				
4.40	4.20	1.40	2.30	2.70	-			
6.00	4.60	1.60	2.70	3.10				
٥.	4.		12.	16.	17.			
• •	• 2	• •3	•55	. 80	1.0	•		
	X X	1432E13	IN H123/	MA W/ CHO	12 (00	JAL PURPOS 800.	E ICH	ROUNDI
3101.2	• 100 ·	-450	23.0	.950	1.	800.	70.	160.
0.	**	ā .	12.	16.	20.	## PUMPOS ## ## ## ## ## ## ## ## ## ## ## ## ##		
13.	13.	17.	22.	29.	33.	39.		
34.	.34.	47.	71.	96.	111.	144.		
•18	+18	.25	• 4 4	. 69	1.0	1.0		
3.2	. 40.	.98	.96	.98	0.0	180.		
	50.	5.0	5.0	10.0	20.0	3.0	80.0	160.
10.	27.	3.0	3.0	8.0	12.0	2.0	40.0	160.
30.	20.	3.0	3.0	10.0	20.0	3.0	80.0	160.
3102 2	150	STEST IN	MIZSAN	AL CHE 1	IZ THE H	3.0 PAP ROUND! 400.		
3105.5	130	• 723	30.0	. 450	2.	. 400.	50.	140.
15.	15.	74	13.	100	22.	27.	30,	,
25.	25.	49.	70.	100-	145	104	300	
.18	.18	. 25	-44	.60	1.0	1.0	1 0	
100.0	. 100.0	100.0	100-0	100-0	1100	1200	1400-	
60.0	60.0	60.0	60.0	60.0	660.	720.	840.	
6.0	6.0	6.0	6.0	6.0	66.	72.	84.	
2.5	2.5	2.5	2.5	2.5	25.	25.	25.	
5.0	5.0	5.0	5.0	5.0	50.	50.	50.	
50.0	50.0	50-0	50.0	50.0	500.	500.	500.	
5.0	5.0	5.0	5.0	5.0	50.	50.	50	•
60.	60.	60.	60.	60.	600.	600.	600	•
300	300•	300	300.	300.	3000-	3000.	3000	•
30.	70.	50.	. 50.	50.	550.	600+	700-	
47.	٤٥٠	23.	25.	25.	275.	3.0 RP ROUND1 400. 27. 76. 195. 1.00. 720, 72. 500. 500. 600. 300. 300. 280. 280. 280. 280. 255.	350.	
1.9	1.9	3.	1.	3.	28.	30.	35.	
2.4	2.4	1.6	1.6	1.2	12.	14.	18.	
24.	24.	24.	24	24	240	40.	30-	
2.4	5.4	2.4	2 4	474	2400	600.	300.	
24.	24.	24.	26.	24.	240	280-	240	
240.	240.	240.	240.	240-	2400	2800	2004	
40.	40.	40.	40.	40.	400-	450-	500	•
20.	20.	20.	20.	20-	200-	225-	250	
2.	2.	2.	2.	2.	20.	23.	25	<u> </u>
1.	1.	1.	1.	1.	10-	11.	13.	•
2.	2.	2.	2.	2,	20.	23.	25	•
20.	50.	50	20.	20.	200.	225.	250.	
2.	2.	2.	2.	2,	20-	2500. 225. 23. 11. 23. 225. 23.	. 25	•
304	30.	30,	30.	30.	300.	350	350.	

FIGURE 5-3. Sample Problem Card Input From Subroutine ROUND (Data Card Types 27 through 40)(Page 2 of 5)

```
960.
 80.
          80.
                   80.
                            ٥J.
                                     80.
                                             80G.
                                                        860.
                                           (HE ROUND)
          XH987E5 IN M123A4 W/ CHG 12
                                    .980
                                                                70.
                                                                         145.
                                                        800.
3103.2
          .10
                   .180
                           22.0
                                             2.
                                                       22.0
0.
                           12.
                                     16.
                                             18.
                                              51 .
                                                      65.
15.
         15.
                  24.
                           33.
                                     44.
                                             119.
                            70.
                                     100.
                                                       166.
25.
         25.
                  49.
                                                         1.0
                  .25
1550.
                            .44
                                     .69
                                              1.0
. 18
          .18
                                    1700.
                                             1800.
                                                        2000.
                            1500.
1500.
         1500.
                   893.
                                     900.
                                               900.
                                                        1000.
                             800.
          830.
 800.
                   155.
                                     170.
                                                         200.
                                               100.
 150.
          150.
                             160.
                                       17.
                                                          20.
                    15.
            15.
                             10.
                                                10.
  15.
                                                          40.
                              32.
                                                36.
  30.
            3).
                     30.
                                       34.
                                                         400.
                                     340.
                                               360.
 300.
          300.
                   300.
                            320.
                             32.
                                       34.
                                                          40.
                    30.
                                                36.
  30.
            3G.
                                                         400.
                             320.
                                     340 .
                                               360.
  300.
          300 .
                    333.
                                                        1200.
                             960.
                                      943.
                                              1050.
           900.
                    900.
  900.
                                              1200.
                                                        1400.
                            1050.
                                     1080.
1000.
          1000.
                  1000.
                                                         700.
                                               600.
                    500.
                            53G.
                                     540.
  500.
          500.
                                      108.
                                                         140.
                    100.
                                               120.
                             105.
  160.
           100.
                                                         14.
                                       11.
                                               12.
  10.
            10.
                    10.
                             11.
                                     . 22.
                                                          28.
                                                24.
                             21.
   20.
            20.
                     20.
                                     224.
                                               240.
                                                         280.
 230.
           200.
                   200.
                             210.
                                       22.
                                                24.
                                                          28.
                              21.
  20.
            20.
                                                         280.
  200.
                    200.
                             210.
                                      220.
                                               240.
           200.
                                      660.
                                               720.
                                                         040.
                    630 ..
  600.
           600.
                             034.
                             .009
                                      800.
                                               30G.
                                                         000.
                    300.
  800.
           80ú.
                    400.
                             400.
                                      400.
                                               400.
                                                         500.
  430.
           400.
                    80.
                              80.
                                       83.
                                                80.
                                                          65.
   80.
            8ú.
    8.
                      8.
                               8.
                                        ٥.
                                                 8.
                                                           9.
            d.
                              20.
                                       20.
                                                20.
                                                          20.
            15.
                     17.
   16.
                             200.
                                      200.
                                               200.
                                                         200.
  160.
           160.
                    170.
                             20.
                                       20.
                                                20.
                                                          20.
                     17.
   16.
            16.
                    340.
                             430.
                                               400.
                                                         400.
  320.
           320.
                    510.
                             600.
                                      600.
                                               600.
                                                         600.
  480.
            NON-NUCLEAR SPEAR (1CM WARHEAD)
                                    .965
 4001.2
         2.3
                  100.3
                            60.0
                                                         30.
                                                                 2.0
                                                                         180.
    0.00
            12.00
                    24.00
                             36.00
                                     48.00
                                                60.00
   22.30
            22.00
                     60.0Ŭ
                              90.00
                                    120.00
                                              150.00
   25.00
            25.30
                     65.00
                              98.00
                                     130.00
                                              163.00
                                      1.00
    1.00
            1.00
                      1.00
                               1.00
                                                 1.00
                                                       980.00
    0.24
           180-00
                      0.97
                               0.95
                                        0.97
                                                 0.00
                                 10.0
                           5.0
                                             20.
                                                      3.0
                                                              80.0
                                                                         160.
         50.
                  5.0
 80.
                                   5.3
                                                               40.6
                                                                          80.
 40.
          25.
                  3.0
                           3.0
                                             10.
                                                       2.0
                                                               00.0
                                                                          160.
                                            20.0
                            3.0
                                                     3.0
 30.
          20.
                  3.0
                  ROCKET SYSTEM (ICH WARHEAD)
        FAKSS --
            .0ä0
                     10.
                            25.
15.
                                         .95
                                                         90.0
                                                                          150.
 5001.2
                                                 1.
                                       20.
                                                25.
   ٥.
             ٥.
   40.
            40.
                     80.
                             150.
                                      203.
                                               450.
                     90.
                                      220.
                                               275.
                             165.
   50.
            50.
                      1.
                               i.
                                        1.
                                                 1.
    1.
            1.
                       . 95
                               زو.
                                         .95
                                                        8.0.
           100.
                               6.0
                                        11.8
                                                80.0
                                                           4.3
                                                                  40.00 100.
                      3.
  120.
            85.
                                                                   20. 80.
                      2.
                               4.3
                                         6.7
                                                 40.
                                                           2.0
            40.
   60.
                                2.
                                                 16.
                                                           1.
                                                                    10.
                                                                             40.
   30.
            20.
            SCUM C
                     IMEUZI
                            SSILE WARHEAD)
                                                         Я.
11001.2
                             175.
                                         .95
                                                 1.
                                                                   2.
             1.
                                      157.
                                               200.
    0.
            44.3
                     88.7
                             133.
                                               450.
   30.
            90.
                    180.
                             270.
                                      360.
                                               900.
   60.
           160.
                    360.
                             540.
                                      720.
             1.
                      1.
                               l.
                                        1.
                                                 1.
```

FIGURE 5-3. Sample Problem Card Input From Subroutine ROUND (Data Card Types 27 through 40)(Page 3 of 5).

```
7
           175.
                                 .90
     • 3
                        . 95
                                          . 95
                                                   .0
                                                         60.
  800.
           400.
                                75.
                     30.
                                                  30.
                                                                  180.
                                                           50.
                                                                          240.
               TOAD-8 (SUBMISSILE WARHEAD)
12001.2
             1.
                      1.
                              80.
                                         . 95
                                                  1.
                                                           10.
                                                                    6.
    ٥.
            16.
                     32.
                              48.
                                        54.
                                                80.
   60.
           160.
                    320.
                             480.
                                       640.
                                                800.
  120.
           240.
                    460.
                             720.
                                       960.
                                              1200.
             1.
                      1.
                               1.
                                         1.
                                                  1.
     . 5
           100.
                                                         30.
  800.
           406.
                                                                  180.
                                        45.
                                                 30.
                                                          50.
                                                                           240.
          140 MM
                  GUN HE PROJECTILE
13001.1
            1.
                      1.
                              30.
                                                  2.
                                                         900.
                                                                 300.
                                       24.
    ٥.
             6.
                     iz.
                              18.
                                                30.
   23.
            30.
                     62.
                              98.
                                      143.
                                                190.
   40.
            60.
                    110.
                             170.
                                      250.
                                                320.
    ٥.
                                              450.
  300.
           300.
                    300.
                             300.
                                     400.
  100.
           100.
                    100.
                             100.
                                      180.
                                               280.
   15.
            15.
                     15.
                              15.
                                       28.
                                                48.
  45.
                                     45.
                   45.
                            45.
                                              45.
 70.
          70.
                   70.
                            70.
                                     70.
                                              70.
   28.
           20.
                     28.
                              28.
                                       28.
                                                28.
 48.
          46.
                   48 . .
                                     48.
                            48.
                                               40.
           300.
  300.
                    300.
                             300.
                                      300.
                                               300.
    э.
  148.
           148.
                   . 150.
                             150.
                                      100.
                                               150.
  101.
           101.
                    106.
                             10.
                                      137.
                                               195.
            10.
                     10.
   10.
                                       10.
                                                10.
                                       14.
   14.
            14.
                     14.
                              14.
                                                14.
11.
11.
   11.
            11.
                     11.
                              11.
   11.
            11.
                     11.
                              11.
                                       11.
   16.
                     16.
                              16.
                                       15.
                                                16.
  106.
           106.
                    106.
                             106.
                                      106.
                                               136.
    0.
           149.
                             175.
  149.
                    171.
                                      111.
                                               169.
   56.
                     40.
            56.
                              40.
                                      117.
                                               101.
   15.
            15.
                     i5.
                                       15.
                                                46.
                               9.
            16.
                     16.
                              16.
                                       15.
                                                16.
   11.
            11.
                     11.
                              11.
                                       11.
                                                11.
            11.
   11.
                                       11.
                                                11.
   40.
            40.
                     4û.
                              40.
                                       40.
                                                40.
    0.
               110 MM MULTIPLE ROCKET LAUNCHER (HE WARHEAD)
14001.2
             1.
                      1.
                              16.
                                         .98
                                                 2.
    0.
             4.
                      8.
                              12.
                                       16.
            45.
   20.
                     90.
                             135.
                                      100.
   35.
            80.
                    160.
                             250.
                                      310.
    0.
  500.
           Súu.
                    600.
                             600.
                                      600.
            30.
                     30.
   30.
                              Зú.
                                       30.
   80.
            80.
75.
                     83.
                              8C.
                                       90.
   75.
                     75.
                              75.
                                       75.
            45.
   45.
                     45.
                              45.
   30.
            ЗÚ.
                     30.
                              30.
                                       зэ.
            50.
   50.
                     50.
                              5C.
                                       50.
```

FIGURE 5-3. Sample Problem Card Input From Subroutine ROUND (Data Card Types 27 through 40)(Page 4 of 5).

							7		
180.	180.	160.	180.	180.					
0.	•	•	•	•	•				
•	•	•	•	•	•				
•	. •		•	•	•				
•	•		•	•	•				
			•	•	•				
				•					
		•							
·									
Ĭ			·						
•				•					
•					•				
•	•	•	•	•	•				
•	•	•	•	•	•				
•	•	•	•	•	•				
•	•	•	•	•	•				
. •	•	•	•	•	•				
•	135	MM	750 (4)	DOG LECTI					
				PROJECTI	LEI				
17001.3		1.		• 45	2.	500.	800.	•	•
0.	3.6		10.8	14.4	18.0				
9.	18.	36.	54·	72.	90.				
20.	33.	70.	100.	128.					
0.	•	•	•	•	•				
400.	400.	400.	400.	420.	450.				
220.	220.	220.		230.	260. 30.				
25.	25.		25.	25.					
74.	74.	74.	74.	74.	74.				
63.	63.	63.	63.	63.	63.				
42.	42.	42.	42.	42.	42.				
81.	81.	81.	81.	81.	.13				
300.	300.	306.	30u.	300.	300.				
0.	•	•	•	•	•				
•	•		•	•	•				
•	•	•	•	•	•				
•	•								
•	•	•		•	•				
•	•			•					
					•				
•				•	•				
					•				
	•			•	•				
•			•						
•					•				
			•						
•	•	•							
		•							
0.		_							
	•	•	•	•	-				

FIGURE 5-3. Sample Problem Card Input From Subroutine ROUND (Data Card Types 27 through 40)(Page 5 of 5).

	15. 100.	61. 6: 54. 5	3. 7.	DIVARTY FDC 12. 24. CORPS FDC
0.00 6	70.		2.	12.
7 7 1200.3	3	BN FDC B BIRY XM155	8N1	XH155 DS XH155 DS
0.	160. 270.	62. 61.6	72.4 71.9	4.
300.	593.	58.5	71.5	8.
610. 990.	950.	58. 55.	71.3 69.5	10.
1120.	1480.	51.5	68.5	8.
1500.	1630.	51.2 A BTRY	69.1 8N1	4. XM155 DS
1200.3		· XM155		
0. 160.	140. 250.	63.5 63.3	73.9 73.4	4.
283.	573.	60.	73.	8.
590.	905.	59.5	72.3	10.
930. 1180.	1150.	56.5 53.	71.	8 • 8 •
1480. '	1030.	52.7	69.6	4.
7 1200.3		C BIRY	BNI	XM155, DS
0.	120.	65.	75.4	4.
140. 260.	230. 530.	64.0 61.5	74.9 74.5	.4.
570.	930.	61.	74.3	10.
960.	1130.	58.	72.5	b •
1160.	1440.	54.5 54.2	71.5 71.4	8. 4.6
7	3	BN FDC	BNZ	XM155 DS
7 1200.3		XM1	BN2	XM155 DS
0.	116.	67.2	65.6	8.
130. 270.	250. 460.	67. 66.5	65.1	6. 5.
420.	710.	66.1	04.9	b.
740.	1133.	02.	64.6	12.
1130. 1340.	1310.	61.7 56.5	63.5	10. 12.
7		A BTRY	SNB	AMISS DS
1200.3	90.	XM155	67.1	8.
110.	23).	68.5	56.6	6.
400.	380. 690.	68. 67.6	66.6	5. 8.
720.	1080.	63.5	66.1	12.
1110.	1290.	63.2 58.	65. 64.	10. 12.
7	10394	C BTKY	842	XM155 DS
1200.3	70.	XM155	68.6	
90.	210.	70.2 70.	68.6	ö.
230.	365. 670.	69.5	od.1	5.
700.	1000.	69.1	67.9 67.6	8. 12.
1090.	1270.	64.7	66.5	10.
1300.	1630.	59.5 8N FDC	55.5 1N3	12. XM155 DS
6	-	B STRY	5/13	XM155 02
1200.3	350.	XH155 70.5	57.8	6.
			2	

FIGURE 5-4. Sample Problem Card Input From Subroutine FUFDC (Data Card Types 41 through 56)(Page 1 of 5).

```
370.
                  70.3
                            57.3
         613.
                            57.1
56.
         690.
                  69.8
                                     4.
630.
720.
         990.
                  67.
                                     5.
                  66.6
                            55.7
                                     8.
         1290.
1100.
                  63.5
                            55.7
1320.
         1630.
                  A BIRY
                            BN3
                                     XH155
                                             20
 1200.3
                   XM155
0.
         330.
                   72.
                            59.3
                                     6.
350.
         593.
                  71.5
                            58.8
                                     5.
610.
         670.
                  71.3
                            58.6
                                     4.
700.
         973.
                   68.5
                            57.5
                                     5.
990.
         1270.
                   68.1
                            57.2
                                     8.
                   65.
                            57.2
                                     8.
1300.
         1630.
                                             05
                   C BIRY
                            BN3
                                     XM155
 1200.3
                   XM155
0.
         31C.
                   73.5
                            63.8
                                     6.
330.
         570.
                   73.3
                            60.3
                                     5.
                   72.8
                            60.1
                                     4.
590.
         650.
680.
         950.
                   70.
                            59.
                                     5.
                  69.6
                            58.7
                                     8.
970.
         1250.
                   66.5
                                     8.
1280.
         1630.
                                              REINF TO SN 2
                   BN FOC
                            BN4
                                     M123A4
    5
          3
                                              REINF TO BN 2
                   8 BTRY
                            8 N4
                                     M12344
 3100.2
                   M123A4
0.
         173.
                   57.7
                                     12.
190.
         590.
                   67.5
                            67.3
                                     12.
610.
         890.
                   67.
                            67.1
                                     ۶.
                                     5.
910.
         1190.
                   60.6
                            66.8
         1630.
                   62.5
                            64.5
                                     M123A4 REINF TO BN 2
                   A BTRY
                            9N4
 3100.2
                   M123A4
0.
21C.
         190.
                            66.3
                   66.2
                            65.8
                                     12.
         610.
                  65.5
                                     5.
         910.
630.
                   65.1
                            65.3
                                     5.
930.
         1220.
1250.
         1030.
                   61.
                            63.
                   C BTRY
                                     M123A4 REINF TO BN 2
                            BN4
                   M123A4
 3100.2
                   64.7
         210.
0.
                            64.8
                                     12.
                            04.3
64.1
         630.
935.
1240.
                   64.5
                                     12.
230.
650.
                                     5.
                   64.
950.
                            63.8
                   63.0
                   59.5
1270.
         1633.
                            61.5
                                     M123A4
                   BN FDC
                            BN5
                                              GSR TO BN 3
          3
                   8 STRY
                            BN5
                                     M123A4
                                              GSR TO EN 3
 3100.2
                   M123A4
                            59.3
0.
         230.
                   75.6
250.
         520.
                   75.4
                            58.8
550.
         950.
                   72.
                            20.6
                                     4.
970.
         1230.
                   71.6
                            56.2
1250.
         1410.
                   71.3
                            55.5
                                     6.
                            56.3
1440.
          1630.
                   66.3
                                     6.
                                     M123A4
                                              GSR TO BN 3
                   A BIRY
                            8 N5
 3100.2
                   M123A4
         210.
                   74.1
73.9
                            57.0
٥.
                            57.3
                                      4.
230.
         60u.
930.
                   70.5
                            55.
                                      4.
630.
950.
          1210.
                            54.7
                   70.1
          1390.
                            54.3
1230.
                   69.8
          1530.
1420.
```

FIGURE 5-4. Sample Problem Card Input From Subroutine FUFDC (Data Card Types 41 through 56)(Page 2 of 5).

```
C BTRY
                                             GSR TO BN 3
 3100.2
                  M123A4
0.
         193.
                  72.6
                           56.3
210.
         560.
                  72.4
                           55.8
590.
         910.
                  69.0
                           53.5
930.
         1190.
                  68.5
                           53.2
                  68.3
                           52.8
                                    6.
1400.
         1630.
                  63.3
                           53.3
                  BN FDC
                                    FARSS
FARSS
                                              GS AT D/A
          3
                           BN6
                           8 No
 5000.2
                  FARSS
0.
         190.
                           70.5
                  60.8
                                    8.
         460.
                  60.6
                           70.
                                    6.
480.
                  60.1
59.7
                           69.8
         810.
                                    ê.
830.
         940.
                           69.5
                                    6.
970.
         1190.
                  56.5
                           69.
1220.
                           66.5
         1430.
                  55.5
                                    10.
1460.
         1630.
                  53.7
                           66.7
                  A BTRY
                           346
                                    FARSS
                                              GS AT D/A
 5000.2
                  FARSS
0.
         170.
                  62.3
                           72.
                                    8.
190.
         440.
                  62.1
                           71.5
                                    6.
         790.
460.
                           71.3
                                    8.
810.
         920.
                  61.2
                                    6.
950.
         1170.
                  58.
                           70.5
1200.
         1410.
                  57.
1440.
         1630.
                  55.2
                           68.2
                  C BTRY
                           816
                                    FARSS
                                              GS AT D/A
 5000.2
                  FARSS
0.
                           73.5
         150.
                  63.8
         420.
                  63.6
                           73.
                                    6.
440.
         770.
                           72.8
                  63.1
                  62.7
59.5
         900.
                           72.5
                                    6.
930.
         1150.
                           72.
1180.
                  58.5
                           69.5
                                    10.
                  56.7
1420.
         1630.
                           69.7
                                    4.
                  BN FDC
                                    MIZJA4
                                              GSR TO D/A FROM CORPS
                           BNZ
                  B STRY
                                    M12344
                                               GSR TO DIA FROM CORPS
                           3 N7
 3100.2
                  H123A4
0.
                  65.
         490.
                           71.
                                    7.
500.
         750.
                  64.8
                           70.5
                                    3.
11.
780.
         1120.
                  54.5
                           72.5
1146.
         1310.
                  54.
                                    4.
                           72.3
1330.
         1630.
                  53.7
                           71.9
                  A BTRY
                                               GSR TO D/A FROM CORPS
                                    H123A4
 3100.2
                  MIZ3A4
٥.
         460.
                  63.4
                           69.5
480.
         730.
                  63.3
                           69.
                                    з.
700.
         1100.
                  53.
                           71.
1120.
         1290.
                  52.5
                           70.8
1310.
         1030.
                  52.2
                           70.4
                  C BTRY
                                               GSR TO D/A FROM CORPS
                           BN7
                                    M12344
 3100.2
                  M123A4
0.
         440.
                  62.
                           68.
                                    7.
         710.
                           07.5
                                    з.
740.
         10aC.
                  51.5
                           69.5
                                    11.
                  51.
1100.
         1270.
                           69.3
1290.
         1630.
                           68.9
                 BN FOC BNS
                                  SPEAR
          2
                                           GS AT CORPS
                                           GS AT CORPS
                 A BTRY
                        BNS
                                  SPEAR
```

FIGURE 5-4. Sample Problem Card Input From Subroutine FUFDC (Data Card Types 41 through 56)(Page 3 of 5).

```
4000.2
               SPEAR
Q.
        1630.
                57.5
                         65.
                B BTRY BNS
                               SPEAR
                                       GS AT CORPS
 4000.2
               SPEAR
٥.
        1630.
                 65.0
                          55.0
    1
              1
 1201.3
 1201.3
 1201.3
    2
              1
                   1
 1201.3
 1201.3
 1201.3
                   1
    3
              1
 1201.3
 1201.3
 1201.3
         ı
              1
                   1
 1201.3
 1201.3
 1201.3
    5
       12
             12
                  12
 1102.1 1103.1 1104.1 1109.1
                                  1201.3 1202.3 1203.3 3101.2 3102.2
                                                                           3103.2
 4001.2 >001.2
         1103.1 1104.1 1109.1
                                  1201.3 1202.3 1203.3 3101.2 3102.2 3103.2
 1.02.1
 4001.2
         2001.2
 1102.1
                                  1201.3 1202.3 1203.3 3101.2 3102.2
         1103.1
                 1104.1 1109.1
                                                                           3103.2
 4001.2 5331.2
       12
    6
            11
         1103.1
 1102.1
                 1104.1 1109.1 1201.3 1202.3 1203.3 3101.2 3102.2 3103.2
 4301.2 5001.2
 1102.1
         1103.1 1104.1 1201.3 1202.3 1203.3 3101.2 3102.2 3103.2
                                                                           4001.2
 5001.2
 1102.1
         .103.1 1104.1 1201.3 1202.3 1203.3 3101.2 3102.2 3103.2
                                                                           4001.2
 5001.2
       11 10
                  10
 1102.1 1103.1 1104.1 1201.3 1202.3 1203.3 3101.2 3102.2 3103.2
                                                                           4401.2
 5601.2
 1102.1
                 1201.3 1202.3 1203.3
                                         3101.2 3102.2
                                                          3103.2
 1102.1
         1103.1
                 1201.3 1202.3
                                 1233.3
                                          3101.2
                                                  3102.2
                                                          3103.2
                                                                   4001.2
                                                                           5001.2
       10 10
                  10
 1102.1 1103.1
                 1201.3
                         1202.3
                                 1203.3
                                          3101.2
                                                  3102.2
                                                           3103.2
                                                                            5001.2
 1102.1 1103.1
1102.1 1103.1
                 1201.3 1202.3 1203.3
1201.3 1202.3 1203.3
                                          3101.2
                                                  3102.2
                                                           3103.2
                                                                   4001.2
                                                                           5601.2
                                          3101.2 3102.2
                                                          103.2
                                                                   4001.2
                                                                           5001.2
       10
            10
                  16
 1102.1 1103.1
                 1201.3
                         1202.3
                                  1203.3
                                          3101.2
                                                  3102.2
                                                          3103.2
                                                                   4001.2
                                                                           5001.2
 1102.1 1103.1
1102.1 1103.1
                 1201.3
                                          3101.2
                                                  3102.2
                         1202.3
                                 1203.3
                                                          3103.2
                                                                   4001.2
                                                                           5001.2
                                 1203.3
                                                  3102.2
                 1201.3 1202.3
                                          3101.2
                                                           3103.2
                                                                   4001.2
                                                                           5001.2
 10 10 10
1102.1 1103.1
                  10
                 1231.3
                         1202.3
                                  1203.3
                                          3101.2
                                                  3102.2
                                                                   4001.2
                                                          3163.2
                                                                           5001.2
 1102.1
         1103.1
                 1201.3
                         1202.3
                                  1203.3
                                          3101.2
                                                  3102.2
                                                           3103.2
                                                                   40C1.2
                                                                           5001.2
                                 1203.3
 1102.1
         1153.1
                 1201.3
                         1202.3
                                          3101.2
                                                  3102.2
                                                           3103.2
                                                                   4601.2
                                                                           5001.2
        10
   10
   65.
           80.
                            77.
   78.
           65.
                   79.
                            62.
                                    80.
                                            59.
                                                     79.
                                                                     7+.
                                                                             53.
                                                             5ó.
   65.
           80.
                   66.
                            77.
                                    68.
                                            74.
                                                     71.
                                                             71.
                                                                     73.
                                                                             68.
   73.
           65.
                   76.
                            62.
                                    77.
                                            59.
                                                     79.
                                                             56.
                                                                     79.
                                                                             53.
   64.
           60.
                   64.
                            77.
                                    67.
                                                    76.
                                                             71.
                                                                     72.
                                                                             68.
   73.
           65.
                   76.
                            62.
                                    76.
                                            59.
                                                    79.
                                                             56.
                                                                     79.
                                                                             53.
                   ò4.
                                                                             68.
   64.
           aJ.
                            77.
                                    65.
                                            74.
                                                     70.
                                                                     71.
```

FIGURE 5-4. Sample Problem Card Input From Subroutine FUFDC (Data Card Types 41 through 56)(Page 4 of 5).

73.	65.	75.	62.	75.	59.	79.	ີ 56.	79.	53.
63.	8).	64.	77.	66.	74.	70.	71.	71.	68.
73.	65.	75.	62.	75.	59.	70.	Só.	76.	53.
62.	80.	63.	77.	64.	74.		71.	70.	66.
72.	65.	73.	62.	74.	59.	75.	56.	75.	53.
61.	80.	62.	77.	61.	74.	64.	71.	70.	68.
72.	65.	73.	62.	73.	59.	75.	56.	75.	53.
61.	du.	62.	77.	. 59.	74.	ol.	71.	65.	64.
70.	65.	72.	62.	72.	59.	73.	56.	75.	53.
60.	80.	61.	77.	58.	74.	59.	71.	61.	68.
69.	65.	76.	62.	71.	39.	72.	56.	75.	53.
6Ü.	60.	61.	77.	57.	74.	58.	71.	59.	68.
65.	65.	70.	62.	72.	39.	71.	>6.	75.	53.
60.	18ú.	360.	540.	720.	900.	luau.	1260.	1440.	1620.

FIGURE 5-4. Sample Problem Card Input From Subroutine FUFDC (Data Card Types 41 through 56)(Page 5 of 5).

3	.601	.001	.00		01 .0	001	.001	001				0.01			
1.	1.	1.	1.									.001			. 2
i.	i.	i.	1.	1.	1.	•	1.		**		1.		1.		1.
2.	i.	4.	3.		1.	Ţ.	1.	1.		1.	1.	1.	1.	1.	1.
٠.	* •	7.	3.	6.	5.	٧.	1.	10.	8.						
				6.	7.										
1.	2.	1.	1	1.	í:	,	1.		•						
i.	1.	1.		4.	3.	5.		1.	2.						
i	i	i													
0.28	0.27		a ບໍ	1 07	1	. •	0.25	1			1			1	1
0.33	0.33			6.00	0.2		0.25	0.24						0.25	
1.00	0.33	1.	25	1 47	1.45	•	1.00			14	1.07				
1.65	1.65	13		3 30	0.6		0.50	0.24						1.31	
3.28	3.27	1.	3.0	1.27	1.20		3.75				2.02				
0.33	0.33	5.	53	6.00	0.25	,	0.28	0.00		60		C . :		0.25	
1.00	3.33	1.		1.47			1.00				1.67				
1.65	1.65				0.65			4.00			4.00			1.31	
0.28	0.27	0.			1.00		0.50	0.24			2.02				
0.33	3.33	5.		6.33			0.55	0.60			0.60			0 - 25	
1.00	J.33	1.			0.25		0.25	0.24			1.07				
1.65					1.45		1.30	4.00		00	4.00			1.31	
	1.55	13			0.05		0.50	0.24			2.02				
85.0	0.27	1.0			1.20			0.60		64				0.25	
0.33	6.33	5 . !		6.00	0.25		0.28	0.24			1.07				
1.30	0.33	1.2			1.45		1.00	4.00	4.	00	4.00	1.3		1.31	
	1.65	13	• 0		0.05		J.50	0.24			2.02				
0.28	0.27	0.1			1.00		0.55	-,			0.60			0.25	
0.33		. 5.		6.00	0.25		2.25	0.24			. 1.07				
	0.33	1.2			1.45		1.00	4.03			4.00			1.31	
1.65	1.65	13.		0.00	0.65		0.50	•••			2.02				
0.28	C. 27	1.0	Ü	1.27	1.20		0.75	0.60			0.60			U.25	
0.33	0.13	5.5			Ü.25		0.28	0.24		34	1.07	0.3			
1.00	0.33	1.6			1.45				4.	60	4.00	1 + 3		1.31	
1.65	1.65	13		0.00	0.65		0.50	0.24	0.	55	2.02	0.7			
	0.27	0.8			1.00		0.55	0.60		o C	0.64	0.2		0.25	
1.00	0.33	5.			0.25		0.25	0.24		14	1.67	0.3			
	1.65	1.3		1.47			1.00	4.00		-0	4.00	1.3	1	1.31	
3.28	0.27	13.			1.20			0.24	0.	22	2.02	0.7			
0.33	0.33	5.5		0.0J					0.	90	0.60	0.2		0.25	
1.00	0.33	1.	25	1.47			1.00	0.24	٠.	24	1.07	0.3			
1.65	4.65	13	-	0.00	0.65				4.			1.3		1.31	
1	1.03	131		0.00	0.03		0.50	0.24	G.	22	2.62	G.7	3		
ž.	9999														

FIGURE 5-5. Sample Problem Card Input From Subroutine WPMIX (Data Card Types 57 through 82).

1432	4132						
1.300	1.000						
2.000	2.000				ī		
4.000	1.000						
5.000 755.000	12.000 4.000	1.000	1.000	1.000	.000	2.430	
1.000	1.000	30	.000	.000	755.312	.000	5.000
60.000	499.000	87.100	80.300				
518.0CC	612.000	85.300	70.000				
627.000	930.000	83.700	79.300				
958.000	1143.000	79.700	78.000				
1173.600	1619.000	75.800	76.600		755.313	.006	4.000
1.000 60.000	1.000	.000 87.500	.000 78.100	.003	122.313	.000	4.000
455.630	625.000	85.300	77.300				
640.000	1208.000	83.300	76.900				
1236.050	1619.000	79.400	75.700				
1.000	1.000	.000	.000	.000	755.322	.000	5.000
60.000	508.000	91.900	71.900				
522.000	679.000	89.630	71.300				
688.000	996.003	88.200	70.100 70.100				
1016.000	1086.000	87.400 81.600	68.300				
1.000	1.500	.000	.000	.000	755.373	.000	5.000
60.000	475.000	93.130	69.400				
.509.000	551.000	87.900	66.700				
558.000	991.000	50.100	66.100				
1006.000	1099.000	86.200	67.700				
1121.600	1619.000	83.600	66.000	5.000	.000	1.000	
901.000	3.000 6.000	6.000 .000	2.000	.000	901.210	•000	6.000
60.000	424.000	79.220	79.200	.000	,01122	4000	0.003
439.000	000.000	77.600	78.500				
633.000	944.000	73.100	78.300				
983.000	1153.000	68.900	75.900	•			
1175.000	1391.000	65.300	74.000				
1398.000	1619.000	64.100 .000	74.00 0 .000	.000	901.220	.000	5.000
2.000 60.000	6.000 409.000	79.750	77.703	.000	7011220	•000	3.000
423.000	>53.000	77.900	77.200				
573.000	995.000	74.600	77.200				
1022.033	1141.000	73.163	77.400				
1182.003	1519.000	64.100	76.200				5 000
2.000	100.0	.000	.000	.000	901.230	.000	5.000
60.000 423.000	401.000 539.000	80.230 77.230	76.400 75.400				
653.000	947.000	75.700	75.300				
1038.000	1318.000	69.300	74.500				
1352.000	1619.000	64.200	74.600				
902.000	3.000	6.000	2.000	8.000	.000	1.060	
3.300	6.000	.000	.000	.000	932.210	.000	6.030
60.300 387.000	372.000 '	81.200 79.200	75.800 74.400				
692.000	1017.003	75.800	73.300				
1045.000	1153.000	72.300	72.100				
1168.000	1470.000	70.400	71.700				
1512.000	1619.000	65.240	76.100				
3.000	6.000	.000	.000	.000	902.220	.00C	7.000
60.000	461.000	81.700	74.500				
480.000 541.000	622.000 1000.000	79.300 77.400	72.90J 70.800				
1627.000	1154.000	73.700	70.500				
1169.000	1299.600	72.300	72.300				

FIGURE 5-6. Sample Problem Card Input From Subroutine REDIN (Data Card Types 83 through 87)(Page 1 of 5).

1335.000	1488.000	74.300	67.500	1	7		
1507.000	1619.000	72.400	65.900				
3.000	6.005	.000	.000	.000	902.230	.000	6.000
60.000	463.000	82.400	73.900	, , , , ,			
473.000	627.0C3	81.400	74.700				
601.030	959.000	76.900	74.200				
987.300	1198.000	72.300	73.400				
1218.000	1538.000	69.200	73.000	•			
1553.000	1619.000	67.200	72.400				
760.000	3.000	6.300	3.000	11.000	.000	2.000	
4.000	6.000	.006	.000	.303	760.210	.00C	7.000
60.000	476.000	62.900	73.200				
510.000	664.000	77.436	74.000				
689.000	959.000	74.730	76.000				
981.000	1133.000	71.900	77.000				
1155.000	1420.000	64.008	76.700				
1434.000	1520.000	66.300	76.340				
1539.000	1619.000	64.630	74.100				
4.003	6.000	•0•0	.300	.000	760.220	.000	6.000
60.000	448.000	81.800	72.200				
476.033	023.000	77.100	73.900				
634.000	767.000	75.200	73.360				
809.000	1175.000	72.130	74.600				
1197.303	1483.000	69.900	73.000				
1513.000	1619.000	65.400	71.200				
4.000	6.003	.000	.000	.000	760.230	.000	5.000
60.050	436.000	80.900	73.000			,	
464.000	612.003	76.700	72.800				
627.000	1137.000	75.200	70.900				
1152.030	1534.000	73.500	69.400				
1556.000	1619.000	72.500	66.500				
753.000	3.000	6.000	4.003	14.000	.000	1.000	
5.000	6.000	.000	.000	.000	753.210	.000	4.000
60.000	413.000	77.000	73.900	,,,,		*****	
447.000	1044.000	72.200	73.500				
1064.330	1481.300	69.400	73.400				
1509.000	1619.000	65.400	72.200				
5.000	6.000	.000	.000	.000	753.220	.000	4.000
60.000	422.000	77.400	72.900				
456.000	1020.000	72.500	72.400				
1034.000	1470.000	70.230	72.860				
1495.000	1019.000	68.630	70.400				
5.000	6.000	.000	.000	.000	753.230	.000	4.000
60.000	402.000	78.300	72.400				
443.000	1206.000	72.500	71.700				
1212.000	1505.000	72.300	71.500				
1530.000	1619.000	70.000	68.100				
843.000	3.000	6.000	4.000	17.000	.000	1.003	
6.000	6.000	.000	.000	.000	843.210	.000	5.000
639.000	720.000	92.600	71.500				
794.000	951.000	61.600	72.800				
1004.500	1190.000	75.600	77.300				
1229.000	1550.000	70.100	74.300		•		
1560.000	1619.005	69.100	73.300				
6.000	6.040	.000	.000	.000	843.220	.000	6.000
540.000	593.000	130.730	84.700				
693.000	613.000	99.600	74.500				
873.000	934.003	P1.000	74.000				
968.000	1156.000	76.700	73.300				•
1183.530	1526.000	72.330	73.600				

FIGURE 5-6. Sample Problem Card Input From Subroutine REDIN (Data Card Types 83 through 87)(Page 2 of 5).

					•		
	1410 000	70 110	71 000		7		
1545.000	1619.000	70.300	71.900	4.1.0	40.000		
6.000	6.000	*600	.000	.000	043.230	.000	6.000
540.000	612.000	136.000	87.700				
704.000	756.000	110.500	78.000				
854.000	935.000	81.830	74.900		•		
972.000	1084.00C	76.500	72.300				
1108.003	1553.000	76.600	69.100				
1567.000	1619.000	76.300	67.500				
903.000	3.000	6.000	4.000	20.000	.000	2.000	
7.633	5.000	.000	.000	•000	903.210	.000	5.000
60.000	479.000	76.130	79.100		, , , , , , , , , , , , , , , , , , , ,	••••	,,,,,
504.600	581.000	73.400	77.700				
603.000	919.000	70.930	78.1CO				
953.000	1419.000	65.300	75.800				
1434.000	1619.000	63.800	74.900				
7.000	5.600	.000	•000	.060	903.220	.600	5.600
60.030	402.000	77.000	78.500				
432.000	616.000	73.200	70.800				
631.000	1015.000	71.900	77.000				
1044.000	1100.000	68.200	74.750				
1130.000	1619.000	65.500	73.900				
				0.0	00) 220	00	- 000
7.300	6.003	.000	.000	.000	903.230	.000	5.000
60.000	462.000	77.900	78.303				
487.000	664.000	74.400	76.200				
674.300	991.000	73.630	75.200				
1021.000	1162.000	69.840	73.200				
1184.003	1619.000	66.200	72.900				
904.000	3.000	6.000	4.000	23.000	.000	2.000	
8.330	6.000	.000	.000	.000	904.210	.000	4.000
60.000	412.000	79.430	72.703				
442.000	1086.000	75.300	76.300				
1101.000	1528.300	73.300	71.200				
1557.000	1619.000	73.300	68.900				
8.000	6.000	.000	.000	.000	904,220	.000	4.000
60.000	449.000	78.900	71.700		,011220	.000	1000
468.033	1141.000	76.100	69.500				
			69.200				
1148.000	1353.000	75.600					
1372.000	1619.000	73.600	67.600	000	004 000		5 000
8.000	6.000	.030	.000	.000	904.230	.000	5.000
60.000	420.000	79.930	71.700				
453.000	1213.000	76.700	69.100				
1223.000	1393.600	75.100	70.200				
1412.000	1513.000	73.300	64.600				
1520.000	1619.000	72.100	68.400				
705.000	1.000	5.000	4.000	25.000	.000	1.000	
9.400	5.000	.000	.000	.000	705.220	.000	5.000
60.000	573.000	88.000	75.900				
599.000	827.000	85.200	78.600				
861.000	925.000	95.430	77.100				
1012.000	1538.000	69.200	76.503				
1568.000	1519.000	65.300	74.100				
715.000	1.000	6.370	4.000	27.000	.000	1.060	
						.000	4.000
10.000	6.000	.000	.000	.000	715.220	.000	4.000
60.000	309.000	73.400	69.403				
316.000	1316.000	73.100	68.500				
1326.000	1479.600	72.600	67.500				
1494.000	1619.303	71.700	65.300				
725.003	1.000	6.000	4.000	28.000	.000	1.000	
11.000	6.000	.000	.000	.030	725.226	.000	7.000
60.000	87.000	80.200	63.400				

FIGURE 5-6. Sample Problem Card Input From Subroutine REDIN (Data Card Types 83 through 87)(Page 3 of 5).

					3		
94.000	217.003	77.800	62.963				
223.000	376.000	77.000	62.900				
390.000	1011.000	75.400	62.300				
1021.303	1366.000	74.430	61.700				
1373.000	1446.060	73.600	61.500				
		72.300	61.100				
1455.000	1519.000		4.000	29.000	.000	1.000	
751.000	3.000	6.000				.000	5.000
12.003	6.000	.300	.000	.000	751.210	• 000	3.000
60.000	146.030	0ب7.81	68.000				
168.000	658.000	78.300	67.800				
865.000	1115.000	77.000	67.400				
1158.000	1276.000	75.000	61.300				
1312.000	1619.000	73.200	66.200				
12.000	6.000	.500	.000	.000	721.220	.000	3.000
73.000	851.000	70.800	66.800	••••			
		76.500	65.700				
866.000	1392.000						
1406.000	1619.000	74.500	65.600	000	751.230	.000	5.000
12.060	6.005	.000	.000.	.000	121.530	•000	3.000
60.000	66.000	62.900	60.303				
114.003	762.000	69.800	65.800				
836.000	1139.560	78.400	64.000				
1149.000	1314.000	77.400	63.200				
1324.000	1619.000	76.000	62.200				
752.000	3.000	6.000	4.000	32.000	.000	1.000	•
	5.000	.000	.000	.000	752.210	.000	8.000
13.000			78.860	•000	1321220		
60.363	63.000	74.930					•
77.300	216.000	74.900	76.700			•	
259.000	483.000	68.200	78.100				
494.000	804.000	69.200	76.500				
811.000	1055.000	67.100	76.900				
1065.000	1240.000	66.00C	75.900		•		
1255.000	1346.000	64.200	74.700				
1363.000	1619.000	62.206	73.800				
13.000	6.000	.000	.000	.300	752.220	.000	7.00C
60.000	133.000	74.900	77.800	••••			
		73.500	76.200				
143.000	269.000	67.600	77.300				
310.003	738.000						
745.000	929.003	66.800	77.300				
936.000	1134.000	65.000	77.200				
1164.000	1353.000	61.930	75.600				
1370.000	1619.000	61.000	74.930				
13.000	6.000	.000	.300	.000	752.230	.000	6.000
60.000	74.500	74.900	76.704				
88.000	194.000	72.136	76.903				
230.000	768.000	67.000	78.300				
774.000	1177.000	67.200	78.100				
1216.000	1329.000	62.300	75.300				
1339.000	1619.000	61.800	74.200				
806.000	1.000	6.000	4.000	35.300	.000	3.000	
14.000	6.000	.000	.000	.500	836.220	.000	4.000
900.300	1397.600	119.300	83.600				
		117.360	83.300				
1111.000	1354.000		81.900		•		
1373.000	1472.003	115.000					
1407.000	1619.000	113.600	80.000	24 2:5	000	1 000	
841.000	3.000	6.000	4.303	36.000	.000	1.000	
15.000	6.000	.000	.000	.000	841.210	.000	2.000
540.000	579.000	119.900	5.900				
679.303	767.000	93.700	79.200				
835.000	1004.000	73.400	76.000				
1039.000	1167.000	66.200	76.500				
10001000							

FIGURE 5-6. Sample Problem Card Input From Subroutine REDIN (Data Card Types 83 through 87)(Page 4 of 5).

					_		
1210.000	1619.000	62.300	75.900		7		
15.000	6.000	.000	.000	.000	641.220	.000	5.000
540.000	574.003	121.800	4.900				
664.000	775.000	98.30C	80.800				
855.003	1033.000	75.400	74.800				
1067.000	1124.000	70.100	74.100				
1165.000	1619.000	64.300	73.800				
15.000	6.000	300	.000	.000	841.230	.000	6.000
540.000	569.000	123.800	6.300				
661.000	733.000	101.000	79.900				
824.000	929.003	74.100	77.200				
976.000	1163.000	67.300	77.500				
1188.005	1275.060	63.900	76.500				
1262.033	1619.000	63.200	75.200				
842.000	3.000	6.000	4.000	39.000	.000	1.000	
16.000	6.000	.0.0	.000	.000	842.210	.000	6.000
540.000	619.0CU	125.330	86.100				
719.000	607.600	94.100	76.600				
865.000	957.000	77.100	73.660				
985.004	1321.000	73.160	72.700				
1349.000	1507.000	69.500	71.203				
1535.000	1619.000	65.900	70.400				
15.000	6.000	.000	• • • • •	.000	842.220	.000	5.000
540.000	563.000	127.500	89.600				
663.003	786.000	99,300	77.100			•	
858.000	971.000	78.430	72.300				
1007.000	1526.600	73.160	70.500				
1555.000	1619.000	70.700	67.800				
15.000	6.000	.000	.300	.000	842.230	.000	6.000
540.000	598.000	129.900	1.800				
693.000	761.000	105.700	70.500				
853.000	916.000	78.1GO	71.300	•			
935.000	1327.000	75.000	71.600				
1347.000	1506.000	72.100	71.500				
1535.000	1619.000	69.100	68.000				
9999.0063							

FIGURE 5-6. Sample Problem Card Input From Subroutine REDIN (Data Card Types 83 through 87)(Page 5 of 5).

```
0.00
           1.00 25.00
                             .30
                                     1.00
                                              4.00 . 0.00
         TABLES LOADED PROPERLY
         6.33
                   6.00
 1200.33
                                     20.QQ
                            4.30
                                               1.00
                                                      30.00
                                                                8.00
                                                                        2.00 1200.00
   83.00
            12.00
                                      2.00
                                                                      27.00
                                               5.00
                                                      27.00
                                                               5.00
                                                                                 5.00
   27.30 1530.00
                   860.00 2000.00 1000.00 1000.00 2000.00
                                                                4.00 5000.00
                                                                                  . 05
     .20
                      . 40
 3100.20
            4.30
                     3.00
                             2.00
                                     40.00
                                               1.00
                                                      30.00
                                                                5.00
                                                                               850.00
  100.00
            12.30
                     1.00
                             1.00
                                      2.00
                                                                      27.00
                                               5.00
                                                      27.00
                                                               5.00
                                                                                 5.00
   27.00 1000.00 1500.0010000.00 1000.00 1000.0010000.00
                                                               3.00 2500.00
                                                                                  . 05
             .5C
                     .20
 4000.20
                      . 20
                              .33
                                      3.00
                                               2.30
                                                      60.00
                                                               1.00
                                                                       20.30
                                                                               30.00
    2.00
                             1.00
             1.00
                     1.00
                                      1.00
                                               3.00
                                                      27.00
                                                                3.00
                                                                       41.30
                                                                                 3.00
   27.03
           99.00
                  200.00
                          400.00
                                   300.00 3000.0030000.00
                                                               0.0099999.00
                                                                                 .20
             .15
                      .80
 5000.23
            2.00
                   24.00
                            24.33 1333.00
                                               3.00
                                                      25.00
                                                              12.00
                                                                                90.00
   18.33
           12.00
                            12.33
                    1.00
                                      1.40
                                               3.00
                                                      27.00
                                                               3.00
                                                                       27.33
                                                                                3.00
   27.00
          600.00 4000.0010000.00 1000.00 4000.00 7000.00
                                                               0.0099999.00
                                                                                 .20
     .13
             • 35
                      • 55
12000.23
            1.00
                     1.00
                             1.00
                                      1.00
                                               2.00
                                                      80.00
                                                               1.00
                                                                       20.00
                                                                               10.00
    6.00
            0.00
                   30.00
                             0.30
                                      1.00
                                               0.30
                                                       0.00
                                                               0.00
                                                                        0.00
                                                                                6.00
    3.30
            J.00
                     0.00
                             0.00
                                      0.00
                                              0.00
                                                       4.00
                                                               0..00
                                                                        0.20
                                                                                0.00
    0.00
            0.00
                     0.00
13000.10
            6.33
                     1.56
                             6.00
                                      1.00
                                               1.00
                                                      36.00
                                                              15.00
                                                                        2.30
                                                                              900.00
  300.00
            0.00
                     1.20
                             0.00
                                      2.00
                                              0.30
                                                       0.00
                                                               0.00
                                                                        J.00
                                                                                0.00
    3.00
            0.00
                     0.0.
                             0.33
                                      0.33
                                              0..0
                                                       0.30
                                                               0.00
                                                                        0.00
                                                                                 6.00
    0.00
            0.00
                     0.00
14000.20
                    43.00
            6.33
                            40.00
                                     40.00
                                                               1.00
                                              2.00
                                                      16.00
                                                                       20.00
                                                                              240.00
                                                      0.00
  720.00
            0.33
                     .90
                             0.00
                                      1.00
                                              U.00
                                                               0.00
                                                                        0.00
                                                                                6.00
                            0.00
    0.00
                     0.00
            4.43
                                      0.00
                                              0.00
                                                       0.00
                                                               0.00
                                                                        0.00
    1.33
            U. 00
                     0.00
17000.30
                     2.00
                             8.00
            6.00
                                     1.33
                                              1.20
                                                      18.40
                                                              15.00
                                                                        2.00
                                                                              500.00
            0.00
  803.00
                             0.04
                     1.10
                                      2.00
                                              0.00
                                                       0.00
                                                               3.00
                                                                        0.30
                                                                                0.00
    3.53
           .0.00
                     0.40
                             0.00
                                      0.00
                                                                        ...00
                                                                                0.00
                                              0.00
                                                       u.00
                                                               4.00
    0.00
            0.03
                     3.00
  8
         SYSTEM LUADED PRUPERLY
 14
 1201.3
                    .320
                                    . 754
                                                    1200.
                                               1.
 1202.3
           .081
                   .200
                            30.0
                                    . 75u
                                               2.
                                                    1200.
 1203.3
           .. 563
                    .115
                            17.3
                                    .983
                                               2.
                                                     1200.
 1204.3
           .101
                  2.970
                            17.0
                                    .953
                                               з.
                                                      600.
                                    . 750
 31-1-2
           .100
                   .453
                            23.3
                                                      BUO.
 3102.2
                   .523
           .150
                            30.0
                                     .950
 3133.2
           · LOG
                    .100
                            22.0
                                     .980
 4001.2
          2.300 100.300
                            63.3
                                     . 755
 5001.2
           . 680
                   . 990
                                                      ýÇ.
                            25.0
                                     .953
12001.2
          1.000
                  1.000
                            0.00
                                    . 750
                                                      10.
          1.000
                  1.000
                            30.0
                                    .970
                                               2.
                                                     900.
14001.2
          1.000
                  1.000
                                                     240.
                            16.0
                                    .980
                                               2.
17001.3
                  1.000
                            18.0
                                    .950
                                                      500.
         RUUND LUADED PROPERLY
                                DIVARTY FOC
  0.00 375.00
                  01.00
                           63.00
 920.00 1700.00
                           57.03
                 54.00
                                CORPS FOC
  0.00
        3/0.00
                  61.00
                           70.00
715.00 1700.00
                  54.00
                           64.00
              BN FDC BN1 XM155 DS
       3
  0.00 150.00
183.33 270.03
                  01.60
                           71.43
                  53.53
                           71.50
```

FIGURE 5-7. Values of Selected Input Parameters (Page 1 of 7).

```
610.00 960.00
990.00 1170.00
                    58.01
                              71.33
                              69.50
                    00.cc
                              68.50
1120.00 1480.00
                    21.50
1500.00 1630.00 51.2
38ATTERYS IN BN 1
                     51.20
                              64.13
                 B BTRY BNL
                                    XM155 DS
   7
        J
1200.33
                              12.43
                                        4.00
                     62.03
                              71.90
                                        4.00
 180.00 270.00
                     61.80
300.00 540.00
613.00 953.00
993.00 1170.00
1123.00 1485.00
1500.00 1630.00
                              71.00
                                        8.40
                     58.50
                                       10.00
                              71.33
                     56.00
                              69.50
                                        8.30
                     >>.00
                              68.23
                                        8.00
                     51.50
                     51.20
                              63.10
                 A BIRY BNI
                                    XM155 05
        0
   7
1200.33
   3.00 140.03
                              73.90
                                        4.00
                    63.50
 160.00 250.00
                              73.40
                                        4.00
                  - 63.33
                                        8.00
                              73.00
 280.00 570.00
                     60.00
 543.63 900.00
                     29.50
                              72.80
                                        10.00
 930.00 1150.60
                     56.50
                                        4.00
                              71.00
1180.00 1463.00
                                        8.00
                     53.00
                              70.00
1480.00 1630.00
                     j2.70
                              64.63
                C STRY BN1
                                    XM155 - 0S
        3
1200.30
   0.00 143.03
                              75.40
                     65.00
                              74.93
                                        4.00
 140.00 230.00
                     64.80
                              74.50
                                        8.00
 260.00 550.00
570.00 930.00
                     01.50
                     61.00
                              74.30
                                        13.00
                                        0.00
 960.00 1130.00
                              72.50
                     50.00
1160.00 1440.00
                                         9.00
                     54.50
                              71.50
                              71.40
                                         4.60
1460.00 1630.00
                     24.23
 7 3 8
0.00 110.00
130.00 250.00
270.00 400.00
420.00 710.60
                                XH155 US
                 BN FDC BN2
                     67.20
                             05.50
                     67.00
                              05.13
                     00.50
                              65.10
                     66.10
                              64.90
  740.00 1153.00
                     62.33
                              64.60
1130.00 1313.60
                     61.70
                              03.00
1340.00 1630.00
                     50.50
                              02.50
    S NE NI SYSSTIAGE
                                     XM155 DS
                           8 N 2
        J
1200.30
                                         8.30
                     67.20
                              05.60
    0.00 110.00
 130.00 250.00
273.33 433.33
423.30 710.00
                                         6.00
                     67.00
                              62.10
                     00.50
                              65.10
                                         5.03
                                         0.00
                              64.90
                     50.10
                                        12.00
  740.00 1100.00
                     62.03
                              64.63
1130.00 1310.00
                              63.50
                                        10.00
                     61.70
 1340.00 1630.00
                     56.20
                              62.50
                                        12.00
                 A BTRY BNZ
                                    XM150 DS
 1233.30
    0.33
            41.31
                     56.70
                              67.13
                                         8.40
  110.00 230.00
                     68.53
                              60.00
                                         6.00
  250.00 380.00
400.00 670.00
                                        2.00
                     68.00
                               06.60
                     07.60
                               06.40
                                         8.33
  720.50 1050.00
                              55.10
                                        12.00
                     63.50
                                        10.00
 1110.00 1290.00
                     63.20
                               65.00
                                        12.00
                              54.00
 1320.00 1530.00
                     50.00
                                    XM155 DS
                  C BTKY BN2
 1200.30
                                         8.00
                      73.20
                               60.00
            73.30
    3.33
   90.00 210.00
                               63.13
                                         0.33
                      70.00
                     69.50
                                         5.00
                               5d.10
  230.00
                      64.10
                               67.90
                                         8.00
  360.00
           674.44
  700.00 1060.03
                      05.00
                                        12.00
```

FIGURE 5-7. Values of Selected Input Parameters (Page 2 of 7).

```
1090.00 1270.00
                   64.70 66.j0
59.50 05.50
                                    10.03
 1300.00 1650.00
                                    12.00
 6 3 8
0.00 350.00
370.00 610.00
630.00 690.00
720.00 990.00
               BN FOC BN3 XM155
                                      DS
                   70.50
                           57.83
                   73.30
                            57.30
                   69.80
                            57.10
                   67.00
                            50.00
1103.00 1270.00
                   65.64
                            55.70
                  . 63.50
                            55.70
   BATTERYS IN BN 3
                BULL ANS
                                 XM155 DS
1200.30
   3.33 393.05
                   70.20
                            57.8J
                                     6.00
  373.00 610.00
                   70.30
                            o7.30
                                     J.00
 630.00 690.00
                   59.80
                            57.10
                                     4.00
                   67.00
                            56.00
                                     5.00
 1100.00 1240.00
                   60.60
                            55.73
                                     8.00
 1320.00 1630.00
                   63.50
                            55.70
                                     8.00
               A STRY BN3
   ò
                                XM155 DS
 1200.30
   3.00 330.00
                   72.00
                            59.33
                                     6.33
 350.00 590.00
                   71.60
                            28.80
                                     5.00
 610.00 070.00
                   71.30
                            56.60
                                     4.00
                   53.50
                            57.50
                                     5.00
 990.00 1270.00
                   60.10
                            57.20
                                     8.00
1300.00 1530.00
                   05.00
                           57.23
                                     8.00
   5
        0
               C BIRY BN3
                              XM155 05
1200.30
   3.00 313.03
                   73.50
                           60.80
                                     6.00
 330.00 570.00
                   73.30
                           05.30
                                     5.00
 593.03 003.03
                   72.80
                           6U.10
                                     4.00
 640.00 900.00
                   70.00
                           59.00
                                     5.00
 470.00 1250.00
                   64.60
                           58.76
                                     8.00
1290.00 1633.00
                   66.20
                                     6.00
   2
       3
               BN FOC BN+
                                M123A4 REINF TO BN 2
 0.00 173.00
140.00 543.33
                   67.70
                   07.20
                           07.30
 613.00 843.03
                   67.00
                           67.10
 910.00 1190.00
                   60.50
                           06.80
1230.00 1630.00
                   62.50
                           64.50
   BATTERYS IN BN 4
   5
               B BTRY BN4
                                M123A4 REINF TO BN 2
3100.20
   3.30 170.04
                   67.70
                          67.80
                                   12.00
 193.00
        593.00
                   67.50
                           67.34
                                   12.00
 610.00 890.00
                   67.33
                           67.13
                                    5.00
 913.00 1190.00
                   06.60
                           65.80
                                    5.00
1230.00 1630.00
                   62.50
                           04.50
                                     0.00
               A BTRY BN4
   5
        0
                               M123A4 REINF TO BN 2
3100.20
   0.00 190.00
                   66.23
                           66.33
                                   12.00
 210.00 510.00
                   60.00
                           65.33
                                   12.05
 630.00 910.00
                   65.50
                           65.60
                                    5.CO
 933.03 1220.03
                  65.10
                           05.30
                                    5.00
1250.00 1630.00
                  01.00
                           63.00
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   5
               C BTRY BN4
                                MIZZA4 REINF TO BN 2
3100.20
   3.00 210.00
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                                   12.40
 230.00 640.00
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 250.00
        523.35
                   75.40
                           58.80
 550.00 950.00
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FIGURE 5-7. Values of Selected Input Parameters (Page 3 of 7).

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 973.33 1243.03
1250.00 1410.60 1443.33 1533.33
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   3BATTERYS - IN BN 5
                                   M123A4 GSR TO BN 3
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                 BN FOC BN6
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                B BIRY BNS
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    3.31 483.60
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FIGURE 5-7. Values of Selected Input Parameters (Page 4 of 7).

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FIGURE 5-7. Values of Selected Input Parameters (Page 5 of 7).

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FIGURE 5-7. Values of Selected Input Parameters (Page 6 of 7).

2.0000	2.0000	11.0000				
4.3333	1.3333	12.4400				
5.0000	12.0000	13.0000				
755.0000	4.0000	1.0000	5.3003	1.0000	0.0000	. 2.0000
901.0000	3.0000	6.0000	6.0300	5.0300	0.0000	1.0000
902.0000	3.4300	6.0.00	6.4300	8.0000	0.0000	1.0003
763.3333	3.0000	6.0000	7.0000	11.6000	0.0000	2.0000
753.0000	3.3000	6.3333	8.0000	14.0000	0.4004	1.0000
844.0000	3.3000	6.0000	8.0000	17.0000	U.0000	1.0000
903.0000	3.0000	6.0000	8.3303	20.0000	0.0000	2.0000
934.3033	3.0000	6.0000	8. 3000	23.0000	0.0000	2.4000
705.0000	1.0000	0.3.00	0.0333	26.0000	0.0000	1.0000
713.3033	1.0000	6.3000	8.0000	27.0300	0.0000	1.0000
725.0000	1.0000	6.3400	8.0000	28.0300	0.0336	1.0000
751.0000	3.3000	6.0000	8.0000	29.0000	0.0000	1.0000
752.3003	3.0000	6.0000	8.0000	32.0000	0.0000	1.0000
406.0000	1.3000	6.0000	8.0000	35.00.0	3.0306	3.0000
841.0333	3.0000	0.0000	8.00.0	30.6060	0.0000	1.0000
842.0303	3.0000	6.0000	8.0000	39.0000	0.0000	1.0000
9949.5550	0.0000	0.0000	4.0000	0.0000	0.0000	6.0000

FIGURE 5-7. Values of Selected Input Parameters (Page 7 of 7).

	TOTAL	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	25 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	2 3 3 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
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	BN 10		000000000000000000000000000000000000000	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
	9 X 9	00000000	0000000	. ₩
S	2	00000000	0000000	
TOTAL	8N 7	10111.2 2 451.2 2 451.2 2 5.4 2 5.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	572.00 6.00 6.00 6.00 6.00 6.00	
1 0 N	9 %			0.00 0.00 0.00 0.00 I T B H E I S H E
ATTAL	S N	1343 101,422 100,004 1000 1000 1000 1000	2 000000000000000000000000000000000000	1522.00 1520.00 68.40 68.40 70.02 C D M P L
	¥ NB	25 25 25 25 25 25 25 25 25 25 25 25 25 2	70000000000000000000000000000000000000	X X X X X X X X X X X X X X X X X X X
	m X	2708.41 141.06 141.05 35.68 14.45 1.25 3.439	94 4 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1111.00 91.20 629.95 37.81 APCS 37.81 APCS 1RED "
	8N 2	1720.44 222.15 1222.15 18.00 42.99 14.61 14.61 1.50 1.50 1.50 1.50	9 4 1 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	- 00 3-00 7-18 0-23 0-23 0-23 0-23 0-23 0-23 0-23
	***	1668 1644 119-99 18127 5:14 00:00 00:00	90000000000000000000000000000000000000	030
		ARTY MIL WORTH PERSONNEL TANKS APCS TAUCKS TAUCKS TUBES RADARS LUGHES LNCHRS BTRY FIRE MSNS	RND ID 1201.30 1202.30 1203.30 1204.30 3101.20 3103.20 3103.20 4001.20	TOTAL RNDS TOTAL UGT TOTAL UGT TOTAL COST TOTAL COST TOTAL COST TOTAL COST TOTAL COST TOTAL COST TOTAL COST TOTAL UG

SAMPLE CASE

GANE TIME .

FIGURE 5-8. Scenario Results After 9 Hours of Game Time (Page 1 of 5).

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TOTAL	27 6 61.		PROCESS		÷	•	0000	20.00			97		00	90
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PLAN	。。	7 7	31		ω Ψ	Виз	65.03 74.97 0.00 4.25	94. 445. 00.0	818Y1 5,00.0 0.0 0.0	818Y 0. 0.	IN K 2 13 14 2	90	90	40
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(215 - N-085	8		200000000000000000000000000000000000000	16.00		V/0	13.31 526.69 0.00 1.93	84.73 84.73 55.27 0.00 49.44	BIRY13 22.67 517.33 0.00 3.89	0.00 0.00 0.00 0.00	4 5 24 252 144 340	2537.	900	13 . 16 . 342.
9 5 80	32		9	1112				8 4	81 2 51	1	e 0 5	00	••	. 0
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	HSN		1000. 1000. 1000. 1000. 1000. 1000. 1000.	AN SCORE			BUSY IDLE - RAM BUSY	BUSY IDLE RAN BUSY	BUSY LOLE - RAM BUSY	BUSY IDLE - KAN BUSY	1 . 0 . 863	SC 0 SE		223 SUM
	IRE OF TI			PLA			TES E	TES I	NI E	NUTES B NUTES I N OUT - RCENT B	1201.30	202.30	1203.30	1204.30
	BN FIRE MSN MSNS DFTED ARIY MW		PLAX 4004	FIRE			MINUTES MINUTES MIN GUT PERCENT	MINUTES MINUTES MIN OUT PERCENT	MINUTES MINUTES MIN DUT PERCENT	MINUTES MINUTES MIN OUT PERCENT	RDUNC 1201 1201	1202	1203	1204
										_	-			

FIGURE 5-8. Scenario Results After 9 Hours of Game Time (Page 2 of 5).

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K I L D M E T E
65-70 70-75
                                                                                                                                                                                                                                                                                                                                                                                                                      NO. PLANS DONE
NO. MET DONE
NO. SURV DONE
NO. ATI DONE
                                                                                                                                                               T H I R T Y 60-65
                                                                                                                                                                                                                                                                                                                                                                    TOTAL TUBES FAILED . 3 TOTAL TUBES NOW UP CHANGES .
                                                                                                                                                                                                                                                                                                                                           0 V E R
55-60
                                                                                                                                                                                                                                                                                                                                                                                                                      NG. ACTUAL'ACG = 210
PERCENT DROPPED = 0.00
                                                                                                                                                                 S Y S T E N S
45-50 50-55
                                                                                                                                                                 F.0 R
                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  36.94
                                                                                                                                                                 8 A N G E
                                                                                                                                                                                                                                                                                                     NO. TARGETS FIRED ... 210
NO. TGTS ON LIST ... 0
NO. TGTS ORDPED ... 0
NO. TGTS CANBINED ... 10
NO. GTS SAVED ... 123
NO. GASVO ORDPED ... 6
NO. H-OBS OROPPED ... 0
NO. FIRO BUT LEFT ... 7
HODIFIED PERCENT DROPPED ...
                                                                                                                                                                                                                                                                D O O 1 O 1 1 2 1 BIRY TUBES GUT TIL NOW DUE
                                                                                                                                                                                                                                                                                   0
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                   SUR
3101.20
                                                         3103.20
                                                                                                                 5001.20
                            3102.20
                                                                                    4001.20
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5) Scenario Results After 9 Hours of Game Time (Page 3 of FIGURE 5-8.

ATA BREAKOOKK BY SYSTEM

	200	1100	1200	1300	1400	1500	2000	3100	4000	2000	\$100	TOT155
н чтн	00.0	00.00	26.7903	00.00	00.0	00.0	00.0	1608.30	0.00	0.00	0.00	6097.32
PERS	00.00	00.0	477.65	00.0	00.00	0.00	0.00	445.61	0.00	0.00	0.00	477.65
ARHOR	0.00	0.00	135.99	00.00	00.00	00.0	00.0	10.84	0.00	0.00	0.00	135.99
TRUCK	00.00	00.0	34.20	00.0	00.0	00.0	00.0	31.44	00.0	00.00	00.00	34.20
TUBES	00.0	00.0	3.55	00.0	00.0	00.0	00.0	6.34	00.0	00.0	0.00	3.55
RADAR	00.0	00.00	.39	00.0	00.00	0.00	00.0	00.0	00.0	0.00	0.00	.39
LNCHR	00.00	00.0	86.4	00.0	00.0	0.00	00.00	00.0	00.0	0.00	0.00	4.98
BIYMS	00.0	00.0	193.00	00.0	00.0	0.00	0.00	61.00	00.0	00.0	00.0	193.00
RD FR	00.0	00.0	3011.60	00.0	00.0	0.00	00.0	808.00	00.0	00.0	00.0	3011.00
RD WG	00.00	00.0	249.98	00.0	0.00	00.0	00.0	80.80	00.0	00.0	0.00	249.98
ROCST	0.00	00.0	1927.03	00.0	0.00	0.00	00.0	362,52	00.0	00.00	00.00	1927.03
INFLA	00.0	0.00	25.00	00.0	0.00	0.00	0.00	00.8	00.0	0.00	0.00	25.00
ATTRI	00.00	00.0	1.00	00.0	0.00	00.0	00.0	00.00	00.0	00.0	0.00	1.00
RAMS	00.00	0.00	30.6	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	3.00
TUBSU	00.0	00.0	51.00	00.0	00.0	00.0	0.00	36.00	4.00	00.4	00.0	51.00
AVG A	00.0	00.0	96.	00.00	00.0	0.00	0.00	1.00	1.00	1.00	00.0	

HOURLY FORCE AVAILABILITY " +970

FIGURE 5-8. Scenario Results After 9 Hours of Game Time (Page 4 of 5).

	MIL	HIR	PERS	GARS BREAKDOWN TAMKS APCS	APCS	TRUCKS	TUBES	RADARS	LNCHRS	RDS FIRED	IRED RD	TSA C	RD COST		MSN FRD
7 20		0.000	3.000	0.000	000.7	0.00	000*0	00000	0.000	_	0.00.0	000*3		000.0	9.000
8x 5		3.0cc	.00.0	0.000	0.00	0.00	0.000	00000	0.00	•	000.0	000.0		00000	0.000
8 A		00000	0.000	0.333	0.000	000.0	0.000	00000 0	2.000		0.000	0.000		000-0	0.000
9 N 3		0.00.0	0.000	0.000	0.00	000.0	0.000	000.0	0.000		0.000	00000		0.000	0.000
8 N 8		0.000	0.000	0.000	700 0	0.00.0	0.603	3 0.000	0.000	_	0000	000		0.000	000:0
6 N		0.363	0.000	0.000	000.0	0.00	000.0	000.0	00000	•	0.000	000.0		000.0	0.00
BN13		0.000	0.00	0.000	0.0.0	0,000	000.0	000.0 0	0.000	0	0.000	0	0.000	0.000	0.000
BNIL		00000	0.000	000.0	000.0	00000	0.000	00000	0.000		0.000	0.0	0.000	0.00	0.000
TOTAL		0.0.0	660.0	0.000	0.00	0.00	0.00	000.0	00000	0	00000	0.0	0.000	00000	0.000

FIGURE 5-8. Scenario Results After 9 Hours of Game Time (Page 5 of 5).

		-4	0	0	0	0	0	0	0	00	3							•					٥.	00					-
		. X	0.0	0	0	0.0	0	0	0	0.0				00.0	00.0	0	00.0	000	0000	00.00			5	000					BUSY OUT DC BUSY DC GUT
		BN 10	00.0	00.0	00.0	00.0	00.0	00.00	00.0	00.0	•			000	00.0	000	00.0	00.0	900	00.0				000					D/A FDC BUS D/A FDC DUT CORPS FDC B CORPS FDC B
		e Na	00.0	00.0	00.0	0.00	00.0	00.0	00.0	0.00	•				00.0	•	•	•	•	•	000		•	0000				REASONS	,
	s	e x	00.0	00.0	00.0	00.0	00.0	0.00	00.0	0.00	•	1		00.0	00.0	000					000	6				2.18	NHOHS		\$ 0 SE
	TOTAL	PN 7	2223.10	561	1.12	96.6	43,83	8.38	00.0	0.00	:	TALS					00.00	3	200		000	101		454.41	-	11.50 .	. s		SY AMNO **
445	NOI.	e z	•	"						00.0	•	0 1 0								000	24.00	24.00	-	23.76		TRUCKS	ISHEL		BATTERY SUSY BIRY OUT DE A BN FDC BUSY SN FDC DUI
SAHPLE CASE	ATTAL	8X 55	849.58	275.64	00.0	5.23	10.98	3.27	00.0	0.00		20 2					376.00	-		00.0	00.0	376.00	37.60	169.20	_	97.08	C O M P L		
8.4	•	* X	422.01	39.94	.63	1.30	4.29	.42	0.00	0.00			6				156.00	Э С	0000	00.0	00.00	- 4	15	70,20		KILLED	UNAC		000000
		83 W	4057,43	266.46	10.14	51.29	21.60	2.96	039	3.64			1512.00	٠.		150.00	00.0	00.0	0000	00.0	00.0	7.0	143.7	966.79		61.88 APCS		, E	IREO INTO INTO INTO INTERPORTED INTO INTO INTO INTO INTO INTO INTO INTO
RS		6N 2	2226,37	330.12	25.65	55.40	28.56	3.93	000	2,33	BEEFFE		00.86.00	00.84		185.00	,	00.0	00.0	00.0	00.0	2311.00	190	1286.35	•	KILLED .		MISSION TYPE	ARTED BEFORE FIRED FOALL BUSY HSN CANT DO NG MSN CANT
18. HOURS		M N	3992,61	260.26	41.53	26.24	34.48	1.67	• 26	2.51	13 066	,			00.0	180.00	00.0	00.0	0.00	00.0	. 00*0	2224.00	3.7	1250.00		TANKS KI		2	DEPED - OLDEPARTED TOPPED-ALL
GARE TIME .			ARTY HIL WORTH	PERSONNEL	ANKS	APCS	IXOCKS	TUBES	KADAKS	BIRY FIRE MSNS	BATTERY NO.	RND ID	1201.30		1203.30	1204.30	3101.20	3102.20	3103.20	4001.20	5001.20			TOTAL CUST		NO. MSNS . 136.			MSN DROPPED TARGET DEPA TGTS DROPPE SCHED PLAN HOUSEKEEPIN TGT OUT DF

0.00 13613.35 0.00 1764.69 0.00 149.96 0.00 146.51 0.00 21.24 0.00 8.49

TOTAL

Scenario Results After 18 Hours of Game Time (Page 1 of 5). FIGURE 5-9.

6000

7855.00 675.21 4242.71

\$635.00 96.00 36.00 515.00 1537.00 12.00 0.00 24.00

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TALS 85	3.		EBCESS			Ī	0000	101 1075	# 0000	# 000	97	00	00	••
TOTAL N-085	272		•				8888	5.33 5.33 0.00 0.00	20000	5000	27 0 0	00	••	00
088	306 76 1673.		71 RE 00000000000000000000000000000000000			=	0000	878Y 074.	# 0000	¥ 000	9 0 0	00	••	• •
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×	°.;		9	ľ		=	6666	27.67 27.67 52.33 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00	5.0 0	00	••	••
0.51		•	_				2.500	- =	-	an	23 0 0		••	00
- 00	。.		SCBR. 2000			*	200	78.15 78.15 001.85 0.00 3.61	RY21 6.67 3.33 0.00 5.56	0.00 0.00 0.00	22	90	00	• •
3 1			423. 423. 423. 423. 423. 211.				4004	1001	103		21 0 0	00	.00	••
5 00	36.		*			=	922	81RY8 102.32 977.68 0.00 5.28	73.00 73.00 007.00 8.89	RY 32 0.00 0.00	20 0	00	00	00
			Q	15		•	25.00	818 102 977	1007 1007 1007	E 000	÷ 00	00	••	• •
PLAN	°••		FIR 22.00	N.		=	.55 1079.45 0.00 0.00	7.83 7.83 0.00	619	1000	18	4 0	••	00
Ξ			RSHS	10 0.	-	•	9.49 0.00 1.83	917 917 0	8TRY19 99.67 980.33 0.00	4 0 0 0	2100	00	30	00
(50 - 1 N-085	°	× ×	ġ	ERCENT	X O U	=	1070	20 5 3 6 5 8 6 5 8 6 5 8 6 5 8 6 5 8 6 5 8 6 6 6 6	800000	0000	91	00	36	• •
	5	1	9	8	EA	•	4.83 0.00 2.58	8TRY 55. 024.	800000	8 000 	15 15 40	00	••	90
088	12, 43 1337	w	SCHEDUL 10. 2. 2. 2. 2. 2.	AND 100.	es	3	4 1075 2	-	-0000	6 000 N 000	104 14 162 0	00	00	• • •
z	•	~			ш	m	6.25 0.00 0.00	1875 54.96 25.04 0.00 12.78	18Y17 0.00 0.00 0.00	¥ 000	IN KIL 13 0 209 0 0	30	00	21 0
PLAN	00	ide.	HSHS	HEOULED		ž	9 80 0	6 -	8 0		11 12 198 390 0 0	00	00	w 0
0 - 5 -085	7 ~ ·		9	J	-	~	3.35 6.65 0.00 7.53	216.56 863.44 0.00 20.28	818416 15.00 065.00 0.00	0.00 0.00 0.00	A 11 0 0	00	00	40
150 N-0	*		9	OF S		Z	133	8 66	-	99	01 4	00	00	(o
90	66 11 621.		₹	RCENT		-	8.15 1.85 0.00 3.37	RY3 7.33 2.67 0.00 5.00	RY15 1.33 0.00 0.00	8727 0.00 0.00	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	0.0	00	60
Ū	71,		SCH 200 000 000 000 000 000	PER		Z	11.8 961 0 23	101	106		9 8	00	00	0 1 0 0 2 0
PLAN	10 17.		1615	00.00	•	S	7.81 2.19 0.00 0.00	18.72 18.03 11.97 0.00	1000 EE	97,	7 80	90	0.0	80
151	.		9	01-1		CORP	107	618 128 951 951 23	BTR 29 1051	# 000	9-6		_ m 	m
18	36 0 1865.			0		D/A	23,39 1056,61 0,00 3,58	10000 10000 17	E 2 M 0 0	8725 0.00 0.00	3 4 5 48 51 421 3 146 678 772	,00	004	, w w w
(2			50000000	2116.00		٥	105	894.10 894.10 0.00 54.17	BIRY13 36.67 1043.33 0.00	61.87 0.00	, 6 d	, , ,	•	
085	76 18 7658.		• O#						-					200
			N	CORE			× 4 4 ×	F W # F	> w # >	¥ # ×	2 0 0 191462			
	TED		PLAN ID 10000. 10000. 10000. 10000.	PLAN SCORE			BUSY 10LE - RAM BUSY	805Y 10LE 1 - RAN 1 BUSY	BUSY FOLE F - RAM	BUSY 10LE 1 RAM BUSY	1 01			
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FIGURE 5-9. Scenario Results After 18 Hours of Game Time (Page 2 of 5).

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FIGURE 5-9. Scenario Results After 18 Hours of Game Time (Page 3 of 5).

ATA BREAKOOUN BY SYSTEM

		200	1100	1200	1300	1400	1500	2000	3100	4000	2000	9100	TOT155
HTH 1		0.00	0.00	10276.41	0.00	00.00	0.00	0.00	3494.69	0.00	42.24	0.0	10276.41
FERS		0.00	00.0	9 856.83	0.00	0.00	00.0	0.00	876.88	0.00	30.46	0.00	854.83
ARHOR		0.00	00.0	210.25	00.0	00.00	00.00	0.00	18.25	00.00	.53	0.00	210.25
FRUCK		00.0	00.00	94.64	00.0	0.00	00.0	00.0	59.11	00.0	2.76	0.0	94.64
TUBES	•	0.00	0.00	9.56	00.0	0.00	00.0	00.0	12.08	0.00	. 60	00.0	9.56
RADAR	•	0.00	00.00	96. 0	00*0	00.0	0.00	0.00	0.00	0.00	0.00	0.00	.96
LNCHR		00.0	00.0	6.49	0.00	0.00	00.0	00.0	00.0	0.00	0.00	0.00	
BTTHS		0.00	00.0	347.00	0.00	0.00	00.0	0.00	122.00	0.00	1.00	0.00	347.00
RD FR		00.0	00.00	0 6282.00	0.00	00.00	0.00	00.0	1549.00	00.00	24.00	0.00	6282.00
RD WG		00.0	0.00	918.39	0.00	00.0	0.00	0.00	154.90	0.00	1.92	0.00	518.39
ROCST		0.00	00.00	3525.14	00.0	0.00	00.0	00.0	693.81	00.00	23.76	0.00	3525.14
INFIR	•	0.00	00.0	00.64	0.00	00.0	0.00	00.00	15.00	00.00	0.00	0.00	43.00
ATTRI		00.0	0.00	9 000	00.0	00.0	00.0	00.0	00.0	00.0	00.00	0.0	00.9
RAHS		00.0	00.00	30.6	00*0	00.0	0.00	0.00	2,00	0.00	0.00	0.00	00.0
russu		0.00	00.00	30.64 0	00.0	00*0	00.00	00.0	35.00	4.00	00.0	00.0	43.00
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HOURLY FORCE AVAILABILITY - .880

FIGURE 5-9. Scenario Results After 18 Hours of Game Time (Page 4 of 5).

	HIT HIH	PERS	GSRS BREATANKS	BREAKDOWN	TRUCKS	TUBES	RADARS	LNCHRS RDS FIRED KD	S FIRE	. Š	VCT	RD COST	DST	HSN FRD	٠.
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8x 5	00000	00000	00000	0.000	000 * 0	0.000	000*0	00000	0	0.000	0.00		000.0	0.0	
8N 6	42.239	30.984	00000	.530	2.764	.597	0.00	0.00	24.000	000	1.920		23.760	1.000	0
8N 7	000.0		00000	0.000	000.0	0.000	000.0	0.000	•	0.000	0.00		000.0	0.0	. 0
BN S	000.0	0.000	00000	0.000	000*0	000*0	0.000	0.000	0	0.00.0	0000		0.00	0.00	0
6 N 9	0.000		00000	0.000	0.000	000.0	000.0	0000		0.000	0.000		0.000	0.00	0
01NB	000*9	0.000	00000	0.000	0.000	00000	0.000	0.000		0.000	0.000		00000	0000	٥
6N11	. 000 * 0		00000	00000	0.000	0.000	00000	0.000	•	000.0	0.00		0.00	0.00	
TOTAL	42.239	30.984	00000	.530	2.764	165.	0000	000.0	24.000	000	1.920		23.760	1.000	0

FIGURE 5-9. Scenario Results After 18 Hours of Game Time (Page 5 of 5).

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٠		TOTAL	2028-64 2028-64 117-12 178-19 158-85 22-73 1-15 8-54	•	1741.00 1741.00 1741.00 17.00 12.00 24.00	9393.00 806.76 \$207.51	
		BN 11	00000000	÷	00000000	000	10 805Y 10 001 100 805Y 100 001
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22		BN 2	# # # # # # # # # # # # # # # # # # #	EATED FATED	2450 68.00 221.00 00.00 00.00 00.00	2719.00 224.66 1523.47	MISSION TYPE QUE OVERLOADED ED BEFORE FIRED ALA BUSY N CANT DO MSN CANT DO MSE OF ALL UNITS
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GANE TIME .			ARTY MIL WORTH PERSONNEL TANKS APCS APCS TAUCKS TUCKS	BATTERY NO. BATTERY NO. BATTERY NO. RNO ID	1201.30 1202.30 1203.30 1204.30 3101.20 3102.20 3103.20 4001.20 5001.20	TOTAL RNUS 2400 240 101AL WGT 240 1745 1745 1745 1745 1745 1745 1745 1745	MSN DRG TARGET 1GTS OR SCHED OR HOUSEKE TGT OUT

FIGURE 5-10. Scenario Results After 27 Hours; End of Game (Page 1 of 5).

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FIGURE 5-10. Scenario Results After 27 Hours; End of Game (Page 2 of 5).

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FIGURE 5-10. Scenario Results After 27 Hours; End of Game (Page 3 of 5).

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PERS	00.0	00.0	1053.19	00.0	00.0	0.00	00.0	244.47	00.0	30.98	0.0	1053.19
AKHOK	0.00	00.0	272.32	00.0	0.00	00.00	00.00	22.46	00.0	.53	0	272.32
TRUCK	00.0	0.00	93.20	00.0	00.0	00.00	00.0	65.89	00.0	2.76	0.0	93.20
TUBES	00.0	00.0	9.40	00.0	00.0	00.0	00.0	12.73	00.0	09.	0.00	9.40
RADAR	0.00	0.00	1.15	0.00	00.0	00.0	00.0	00.0	00.00	0.00	000	1.15
LNCHR	00.0	0.00	9.54	0.00	00.0	00.0	00.0	0.00	00.00	0.00	00.0	8.54
BIVHS	00.0	0.00	436.06	00.0	00.0	00.0	0.00	137.00	00.0	1.00	00.0	436.00
RO FR	0.00	00.0	7616.00	00.0	0.00	0.00	0.00	1753.00	00.0	24.00	00.0	7616.00
RD WG	00.0	00.0	629.54	0.00	0.00	00.0	0.00	175.30	00.0	1.92	00.00	629.54
RDCST	00.0	00.0	4398.14	00.0	00.00	00.00	0.00	765.61	00.0	23.76	00.0	4398.14
INFIR	00.0	0.00	52.00	0.00	00.0	00.0	0.00	16.00	0.00	00.0	0.00	95.00
ATTPL	00.0	00.0	00.9	00.0	0.00	00.00	00.0	00.0	00.0	00.0	00.0	00.0
RAHS	00.0	0.00	14.00	0.00	00.00	00.00	00.0	2.00	00.0	00.0	00.0	14.00
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FIGURE 5-10. Scenario Results After 27 Hours; End of Game (Page 4 of 5).

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9N10		0.000		0.000	0.000	0.000	000.0		0.000	0.000	0.000	0.000	
BNIL	•	000-0		000.0	0.000	0.000	00000	0.000	000*0	000*0	00000	000.0	
FUTAL		42.239	30.964	0.000	.530	2.764	165.	0.000	0000	24.000	1.920	23.760	1.000

FIGURE 5-10. Scenario Results After 27 Hours; End of Game (Page 5 of 5).

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FIGURE 5-11. Individual Target Status at End of Game (Page 1 of 3).

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FIGURE 5-11. Individual Target Status at End of Game (Page 2 of 3).

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FIGURE 5-11. Individual Target Status at End of Game (Page 3 of 3).

SECTION 6

GLOSSARY

This section contains, in alphabetical order, all of the FORTRAN variable and array names that appear in COMMON of the AFSM program. When applicable, units for the variables are specified, and a brief definition is given.

Although most of the definitions are sufficient and self-explanatory, a few of the arrays require additional detail over and above the definitions contained in the glossary. In most cases, the user is referred to the input section, Section 3 of this manual, for a more comprehensive definition of the array values. There are, however, six arrays whose values must be defined in detail before an undertaking of the machinations of the program can be achieved.

Their data descriptions are presented in the pages immediately following the general glossary. The arrays, in particular, are:

- 1. AMMO(10,10,14)
- 2. BRY(11,10)
- 3. DAMG(18,601)
- 4. FUATT(33,12)
- 5. STORE (9,14)
- 6. SYSORT(17,16)

Variable	Units	Definition
A(10,10)	kilometers	x-coordinates of endpoints of FEBA trace line segments
ACQLN		Computed but not used (= -2.0 ln 0.4)
ACQMIN	minutes	Minimum time for Red force to acquire a Blue battery as a counterbattery fire target
AJF		Not used in program
AJFHE		Not used in program
ALF1		Alphanumeric description of target acquisition method
ALF2, ALF3		Alphanumeric description of target
ANLCHS(15)		Total number of Red antiaircraft missile launchers attrited by Blue artillery fire
AMMO(10,10,14)	variable	14 information values for up to 10 batteries of a battalion and 10 round types (HE and ICM) available to the battery
APC(15)		Total number of Red APCs attrited by Blue artillery fire
ARL(9,3)	meters ²	Lethal areas of the HE round being fired for nine target elements in three environments at current range
ARLETH	meters ²	Lethal area of standing personnel for current round type and range value
ARMFLG		Flag indicating current target is a Red artillery missile or rocket battery (=0.0, no such target; =1.0, MRL, =2.0, FROG)

Variable	Units	Definition
ARMW(5,3)	. 	Military worth of observed, unobserved, and plan missions defeated for each of four groups plus total military worth for each type mission
ARTFLG		Flag indicating current target is a Red tubed artillery battery (=0.0, no such target; =1.0, target)
ARTMW(15)		Military worth of Red targets attrited by Blue artillery fire
ATRKEY		Not used in program
AUF(5,33)		Total number of rounds fired by each of 33 Blue batteries up to last hour, last 3/4 hour, last 1/2 hour, last 1/4 hour, and current game time
AUR(10,33,5)		Total number of 10 round types fired by each of 33 Blue batteries up to last hour, last 3/4 hour, last 1/2 hour, last 1/4 hour, and current game time
AX(9,3,20)	variable	Kill probabilities against nine target elements in three environ-ments for each of up to twenty batteries
AXVOL(11)		Maximum number of volleys per mission per battery for 11 weapon systems
B(10,10)	kilometers	y-coordinates of end points of FEBA trace line segments

Variable	Units	Definition
BEGIN		Flag used to call CKDAMG (=0.0, call to update damage to a target; =1.0, call to check past damage to a potential target; =2.0 upon return from CKDAMG, target has been previously defeated)
BLD(25)		Basic load in round per battery for 25 round types
BLDFLV		Blue battery personnel defeat level. Blue battery must have at least this fraction of its original personnel alive in order to function
BNDX(9)	kilometers	x-coordinates of nine points on Scenario 3 boundary line
BNDY(9)	kilometers	y-coordinates of nine points on Scenario 3 boundary line
BNEC(14)		Tactical echelon identifications of Blue battalions
BNOD(4,14)		Battalion ordering for missions originating at Division or DS missions originating at Group, and missions originating at Division for D/A FDC, D/A FDC, GROUP FDC, and GROUP FDC, respectively
BNPR(14)		Battalion priority within the Blue force for each Blue battalion
BNRND(25,15)		Number of rounds of each type fired by each Blue battalion plus total number of rounds of each type fired through current game time
BNXID(15)		Alphanumeric battery/battalion description

Variable	Units	Definition
BRY(11,10)	variable	Data with respect to each of up to 10 batteries within a battalion
BRYID(33)		Identification number of 33 Blue batteries
BUSY(3,33)	minutes	Completion times of up to three fire missions for each of 33 Blue batteries
CAS(9)		Fractional casualty level achieved by current fire mission for each of the nine target elements in the game (later changed to level for seven elements-personnel and six materiel target elements)
CASHE(9)		Not used in program
CASICM(9)		Not used in program
CBDAML(11)		Fraction of TOTATR value that is long-term damage for each of 11 weapon systems
CBDAMP(11)		Fraction of TOTATR value that is permanent damage for each of 11 weapon systems
CBDAMS(11)		Fraction of TOTATR value that is short-term damage for each of 11 weapon systems
CCOV(9,4)		Fractional coverage for nine target elements in four types of environment for current round
COVHE (9,4)		Not used in program
CHEKFG(33)		Not used in program
CHG(25,10)		Equivalent full charge values for 25 round types at 10 range values (CLGP, ICM, and HE round types)

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Variable	Units	Definition
CLFLAG		CLGP target flag (=0.0, no target; =1.0, target)
CLGP		CLGP round flag (=0.0, CLGP rounds allowed; =1.0, CLGP rounds not allowed)
CLGPSF(3)		Scale factors for computing number of tanks, APCs, and trucks killed by CLGP rounds
CLKILL(4)		Blank (first position) plus number of tanks, APCs, and trucks killed by current CLGP rounds
CLSCOR(4)		Number of missions fired, plus number of tanks, APCs, and trucks killed by CLGP rounds
COF122(3,4)	variable	Four coefficients for computing number of rounds required, based on distance to target for three battery target types
COLHDR(14)		Alphanumeric column headers for hard copy output
CPER	meters	Round-to-round error for current range value and round type expressed in CPE
CPET	meters	Total system error for current range value and round type expressed in CPE
CPK(9,4)		Probability of kill for nine target elements in four environments for current range value and round type
CPKHE(9,4)		Not used in program
CPKICM(9,4)		Not used in program

Variable	Units	Definition
CPR(25,10)	meters	Round-to-round error in CPE for 25 round types and 10 range values (HE and ICM rounds)
CPS(25,10)	meters	Total system errors in CPE for 25 round types and 10 range values (HE and ICM rounds)
CRE(9,4)	or meters	Radius of effects values for nine target elements in four types of environment for current range value and round type
CRITRA		Round criterion flag (=1.0, cost criterion; =2.0, weight criterion)
CRT(25)	(kilo-dollars) ⁻¹ or (metric tons) ⁻¹	Reciprocal of either cost per round in thousands of dollars or weight per round in metric tons for 25 round types
CST(25)	kilo-dollars	Cost per round in thousands of dollars for 25 round types
CSTI(25)	(kilo-dollars) ^{-l}	Reciprocal of cost per round in thousands of dollars for 25 round types
CXID(16)		Alphanumeric mix identification
DAMG(18,601)		Eighteen target parameter values for each of up to 601 targets in the game
DBFL(11)	kilometers	Mean distance traveled between long-term mobility failures for ll weapon systems
DBFP(11)	kilometers	Mean distance traveled between permanent mobility failures for li weapon systems
DBFS(11)	kilometers	Mean distance traveled between short-term mobility failures for ll weapon systems

Variable	Units	Definition
DBSY(49)	minutes	Cumulative time that each FDC and battery of the Blue force was busy up to current hourly printout
DDST(3,33)	kilometers	Distance traveled since last short- term, long-term, and permanent mobility failures for 33 Blue batteries
DEC(9,3,20)	meters	Expected coverage in deflection of nine target elements in three types of environment for as many as twenty batteries
DEPAP	meters	Deflection round-to-round probable error modified by factor, XK, for current range value and round type
DEPM	meters	Deflection MPI probable error for current range value and round type
DEPP	meters	Deflection round-to-round probable error for current range value and round type
DEPTH(10,33)	kilometers	Distance from FEBA of as many as 10 different emplacements for 33 Blue batteries
DEPTM	meters	Deflection MPI probable error including target location error for current range value and round type
DET(33)	minutes	Start of battery detection by Red force for each of 33 Blue batteries in the game
DETLN		Computed but not used (=1n 0.6)
DL		Defeat level (a Red unit is considered defeated if the fractional survivors of the critical element drops below this level)

Variable	Units	Definition
DROF(11)	rounds per minute	Dynamic rate of fire per tube for ll weapon systems
ECOF(10)		Effects cutoff values for 10 postures
EQAUF(2,33)		Equivalent number of full charge rounds up to last 15 minutes, and current game time for each of 33 Blue batteries
EQNR		Equivalent number of full-charge rounds fired by battery being processed on current mission
ERLHEV	minutes	Time of earliest HE type volley against current target
ERLICV	minutes	Time of earliest ICM type volley against current target
ETCT(11)	hours	Expected time to change tube when tube life is exceeded for ll weapon systems
EV(4)		Environment consideration flag for four environments (=0.0, do not consider; \neq 0.0, gives fraction of target in that environment)
EW(2,5)	minutes	Start and stop times of five com- munications jams
FDCD(4,13)		Lateral backup, reinforcing, general support reinforcing, and fire plan assignments for 13 FDCs
FDCL(13)	minutes	Time for completion of current mission processing (at current site location) for each of 13 FDCs
FDCRM(13,2)	minutes or 	Time that FDC failure is repaired and type of failure for 13 FDCs

Variable	Units	Definition
FDOUT(13)	minutes	Time that FDC repairs are completed for 13 FDCs (if = 0.0, FDC has not experienced a failure)
FEBACT(11)	minutes	FEBA trace activation times for 10 FEBA traces and one dummy value
FEBRNG(25,30)		Number of rounds for 25 round types fired at 30 different ranges (1 km to 30 km in 1 km intervals for FEBA to target ranges)
FIFCLK	minutes	Cumulative 15-minute intervals of game time
FIRPL(43,50)	variable	Forty-three data values for each of up to 50 fire plans ("Header Cards") (see Table 3-9 for data value definitions)
FLGTOT(6)		Not used in program
FORSIZ		Total number of tubes available in Blue force at start of game.
FP(43,90)	variable	Forty-three data values for as many as 90 targets that are included in fire plans (See Table 3-10 for data values)
FPCLK	minutes	Rounds have been set aside for all fire plans occurring prior to this time.
FPRAT(11)		Ratio of volleys per battery to volleys per base system for ll weapon systems
FPSCOR		Fire plan scoreboard (military worth total of fire plans executed thus far in the game)

Variable	Units	Definition
FPTGIN		Number of fire plans entered as part of input data up to game time
FPTGSC		Number of fire plans scheduled through current game time
FPVOL(11)		Maximum number of volleys per battery against a fire plan target for 11 weapon systems
FSUM		Used to compute "Military Worth Hours"
FUATT(33,12)	variable	Miscellaneous data (12 values) for each of 33 Blue batteries
FUOD(33)		Priority values for 33 Blue batteries
GAMCLK	minutes	Current game time (time up through which FDCs may work)
GP(9,25,10)	or matrices	Pk (ICM) against nine target elements or radius of effects (HE) for 25 round types at 10 range values for a grassy environment
GROUP(2,4)		Upper and lower military worth values for four groupings
GRVM(45,10)		Round ID's for 45 round types and 10 postures in a grassy environment
GSRS(10,12)		Output results for as many as nine Blue battalions equipped with GSRS plus total results
HAVAIL		Hourly availability of tubes in Blue force
HBLD(25)		Half the basic load in rounds per battery for 25 round types

Variable	Units	Definition
HNMX(11)	rounds per tube per hour	Maximum number of rounds per tube per hour for 11 weapon systems for Blue force; number of tubes per launcher for Red force
IAMMO(45)		A pointer array; IAMMO(IR) is the index of round IR in the AUR array
IBNTYP(16)		Weapon system number in each Blue battalion in the game
IBRYID(16)		Integer value of battery identifi- cation number
ICM		Flag for ICM rounds (=0, none; >0, some); number of ICM round types to be considered for current mission
ICOUNT(30)	kilometers	Thirty range values used in game (1 km to 30 km)
IDDST(3,33)	kilometers	Initial (randomized) distance traveled by each of up to 33 Blue batteries at start of game since its last short-term, long-term, and permanent mobility failures
IDRDSV(6,33)		Round index numbers for six round types saved for fire plans by each of up to 33 Blue batteries
IFLAG(33)		Site number for attrition checks of 33 Blue batteries (= scheduled site number plus number of minimoves)
IFLOAT(14)		Battalion float flag for battalions in the game (=0, no tubes floated; = 1, tubes floated into game)
IGSRS		Flag for GSRS mission (=0, no GSRS mission; =1, GSRS mission)

Variable	Units	Definition
IHE		Flag for HE rounds; number of HE round types to be considered by current battery on this fire mission (=0, none; >0, some)
IHOUR	hours	Integer value of game time in hours
IISYST(16)		Integer value of weapon systems identification number
IJF		Number of batteries massed on cur- rent fire mission
ILRNGC(11,10)		Number of rounds fired for 10 ranges in excess of 30 kilo- meters for 11 weapon systems
IMSNFD(33).		Number of fire missions completed from current site for each of 33 Blue batteries (used only if battery is a GSRS one)
IORDER(2)	,	Red weapon systems ordering for counterbattery fire missions
IQ		Subscript of current mission in QUE array
IRDCNT(25,30)		Number of rounds of 25 different round types available at 30 different ranges (1 km to 30 km battery to target range)
IRDS(4,33)		Randomized initial number of equivalent full-charge rounds fired since last short-term, long-term, permanent firepower failures, and number fired since last tube change for each of up to 33 Blue batteries
IRMFLG(13)		FDC operable condition flag (=0, operable; =1, inoperable)
ISIT(33)		Current site location number for each of 33 Blue batteries

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Variable	Units	Definition
ITRAY(33)		Index of FEBA trace last used for distance calculation for each of 33 Blue batteries
JFLAG(33)		Index of site locations at which battery most recently received counterbattery fire for 33 Blue batteries (index includes number of minimoves)
JGPTST		Position of first service element of target battalion in DAMG array
JPLTST		Position of first platoon of tar- get battalion in DAMG array
JRAY(33)		Index of scheduled battery site used the last time that distance from FEBA to each of 33 Blue batteries was computed
KFLOAT		Number of artillery tubes floated into the game
KJX		Counter incremented in TIME but not used elsewhere (causes every third FDC transmission to require twice as much time if EW is in effect and FDC has TACFIRE)
KOUTRG		Number of targets out of range of all units
KSIG(20)		Use flag for each of 20 weapon systems entered from punched cards (=0, system not in game; =1, system in game)
KYUSKY(33,22)		Data for Red counterbattery fire missions against 33 Blue batteries
LHE(20)		LHE(I)=0, if i th firing battery is shooting ICM on this mission; LHE(I)=I, if i th firing battery is shooting HE on this mission

Variable	Units	Definition
MASSLT		Maximum number of Blue battalions allowed to mass fire on any single-fire mission
MAXFP		Maximum number of tape input and machine-generated missions per fire plan
MAXKYU		Maximum number of pending Red counterbattery fire missions allowed
MAXND		Maximum number of units allowed in the DAMG array
MAXPQ		Maximum number of missions allowed in the PREQ array
MAXQ .		Maximum number of missions allowed in the QUE array
MAXTFP		Maximum number of tape input tar- gets per fire plan
MFDTYP(13)		Computer type available at each of 13 FDCs (=1, TACFIRE; =2, FADAC)
MGSRS		Number of batteries equipped with GSRS
MRKTLT		Maximum number of GSRS batteries allowed to mass on any single target
MSNFLG		Not used in program
MSNS(15)		Number of battery fire missions per battalion plus total number of fire missions
MXBYPN		Maximum number of missions per battery per fire plan

Variable	Units	Definition
MXTTFP		Maximum number of additional mis- sions per battery per fire plan (machine-generated)
MQT(2,3)	or kilometers	Order of and distance to target of three direct support battalions for fire mission from Division
NATI		Number of Artillery Target Intelli- gence reports completed
NBAT(2,16)		Number of batteries assigned and identification number of first battery assigned for each FDC
NBB		Number of times batteries were busy
NBLBAT		Number of Blue batteries in the game
NBLUSY		Number of Blue weapon systems in game
NBN		Number of Blue battalions
NCB		Number of times Group FDC was busy
NCO		Number of times Group FDC was out (down) when sent a mission
ND		Current number of Red units in DAMG array
NDB		Number of times Division FDC was busy
NDBF		Number of times target departed before being fired upon
NDCBSY		Number of FDCs busy
NDDB		Number of targets dropped because all battalions were busy

Variable	Units	Definition
NDFQ	· 	Number of missions dropped due to QUE overload
NDFT(5,3)		Number of observed, unobserved, and planned missions defeated for four military worth groups, plus total number of each type defeated
NDO		Number of times Division FDC was out (down) when sent a mission
NDS		Number of Blue direct support battalions in the game
NE		Number of different type target elements
NESTP		Number of estimated postures
NEV		Number of target environments $(2 \le NEV \le 4)$
NFB		Number of times a battalion FDC was busy
NFBL		Number of missions fired after target unit departed
NFDC		Number of Blue FDCs (=NBN + 2)
NFO		Number of times a battalion FDC was out (down) when sent a mission
NFP		Number of fire plans
NFPTM		Number of fire plans on target list
NFT		Number of FEBA traces
NFU		Number of Blue fire units
NGRP		Number of military worth groupings

Variable	Units	Definition
NHOS	·	Number of housekeeping missions not done
NIFR(33)		Number of incoming fires received by each of 33 Blue batteries
NIP		Number of interpolation points for CLGP data
NITGTS		Number of individual potential targets in Red force
NJX		Counter that is incremented in TIME but not used elsewhere (causes every second FDC transmission to require double time when using FADAC during EW)
NKYU		Number of Red counterbattery fire missions currently scheduled
NMET		Number of MET message processing missions completed
NMINMV(33)		Number of minimoves for each of 33 Blue batteries
NMSN		Number of estimated postures in game
NOA		Number of times a battery was out of ammunition when considered for a mission
NOFM(5,3)		Number of observed, unobserved, and planned battalion fire missions for each of four military worth groups plus total missions of each type
NOR .		Number of battalions out of range to current target

Variable	Units	Definition
NOTD		Number of observed targets that were dropped
NPLNIN		Number of fire plans on target tape
NPLNS		Maximum number of fire plans allowed in the game
NPOST		Number of target postures in the game
NPPD		Number of scheduled missions unable to do
NPR		Number of missions in PREQ array
NPS		Number of end points for FEBA trace line segments
NQ		Number of targets in QUE array
NQFM		Number of fire missions on QUE list
NR		Number of rounds per volley fired in current fire mission by current battery
NREDBT		Number of Red batteries in the game
NRFP		Maximum number of round types per battery per fire plan
NRG(15)		Number of round types for 15 postures in a grassy environment
NRO(15)		Number of round types for 15 pos- tures in an open environment
NRS		Number of round types whose data are to be entered from punched cards
NRT (15)		Number of round types for 15 pos- tures in a town environment

Variable	Units	Definition
NRW(15)	·	Number of round types for 15 pos- tures in a wooded environment
NSAV		Number of targets saved
NSI(187)		Number of currently recorded intervals during which each of 187 batteries received incoming fire that could result in suppression
NSITE(33)		Number of different emplacements (10 maximum) for each of 33 Blue batteries
NSITEF(13)		Number of different emplacements (10 maximum) for each of 13 FDCs
NSUR .		Number of survey processing mis- sions completed
NSYS		Number of weapon systems types in Blue force
NSYSE		Number of weapon systems types in Red force
NTBN		Number of target battalions in Red force
NTCM		Number of targets combined in the game
NV .		Number of volleys for current round type by current battery
NVL(20)		Number of volleys fired by each of up to 20 batteries massing on this mission
NVOL		Number of volleys fired by current battery on current mission
NZAP		Number of communications jams

Variable	Units	Definition
OBSCLK	minutes	Records of incoming fire at times prior to OBSCLK are now too old to have any suppressive effects
OLDCLK	minutes	A lower bound on the time at which any event now being considered can occur
OMEGA	degrees or radians	Angle of fall for HE rounds
OP(9,25,10)		Pk(ICM) or radius of effects (HE) against nine target elements for 25 round types at 10 range values for an open environment
ORVM(45,10)		Round ID numbers for 45 round types and 10 postures in an open environment
PER(15)		Number of Red personnel attrited by Blue artillery fire
PERSFG		Personnel flag for Red counter- battery fire (=1.0, batteries can be defeated due to personnel losses; #1.0, batteries cannot be defeated due to personnel losses)
PI ·	·	π
PII		π-1
PLT(6)		Total number of platoons for each of six artillery damage levels
PNACQ(33)		Probability of non-acquisition by Red CB for each of 33 Blue batteries
PNDET(33)		Probability of non-detection by Red CB for each of 33 Blue batteries

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Variable	Units	Definition
POST(18,18)		Unwarned and warned target elements posture data (see data card types 13 and 14)
PRCT(49)		Percentage of last hour that each FDC and battery of the Blue force was busy
PREQ(50,150)	variable	Fifty data values for each of up to 150 missions stored in the PREQ array (see Tables 3-3, 3-6, 3-7, 3-8, and 3-9 for typical data value descriptions)
QUE(43,56)	variable	Forty-three data values for each of up to 56 missions stored in the QUE array ordered by military worth (data value descriptions identical to those for PREQ array except last seven data points dropped)
RADARS(15)		Number of Red radars attrited by Blue artillery fire
RAM(33)		Fraction of tubes currently avail- able at 33 Blue batteries
RAMIN(13,5)	or minutes	FDC equipment failure data for 13 FDCs
RASR		Square root of the ratio of round- to-round error to system error for current round type and range value
RASRHE		Not used in program
RBFL(11)		Mean number of rounds between long- term failures for each of 11 weapon systems
RBFP(11)		Mean number of rounds between permanent failures for each of 11 weapon systems

Variable	Units	Definition
RBFS(11)		Mean number of rounds between short-term failures for each of 11 weapon systems
RDAM(25)	meters	Estimated radius of effects per battery volley for each of 25 round types
RDCLK	minutes	Used to determine value of TSTCLK which, in turn, determines whether next Red counterbattery fire mission is to be fired yet
RDCST(15)	kilo-dollars	Total cost of rounds expended by each battalion and total cost of all rounds expended by the Blue force
RDS(4,33)		Randomized initial values for number of rounds fired since last short-term, long-term, permanent fire power failure and tube change for each of up to 33 Blue batteries
RDSUM(15)		Number of rounds fired by each battalion and total number of rounds fired by Blue force
RDSV(6,33,30)		Number of volleys saved for each of six round types available at each of 33 Blue batteries for use against each of 30 fire plan missions
RDSVK(6,33)		Total number of fire plan targets for which each of six round types available has been saved at each of 33 Blue batteries
RDWGT(15)	metric tons	Total weight of rounds fired by each battalion and total weight of all rounds fired by Blue force
RE(25,10)	meters	Radius of effects for HE and Pk for ICM rounds for each of 25 round types at each of 10 range values

Variable	Units	Definition
REC(9,3,20)	meters	Expected coverage in range against each of nine target elements in each of three environments for each of 20 batteries massing on this fire mission
REDBAT(145,8)	or minutes	Red battery data (eight values) for as many as 145 Red batteries in the game
REDBN(60,7)		Red battalion data (seven values) for as many as 60 Red battalions in the game
REDECH(8,3)		Number of first Red battalion equipped with weapon system, total number of battalions with system, and round ID number for each of eight Red weapon systems
REDFLG		Not used in program
REDMOV(145,6,4)	minutes or kilometers	Arrival and departure times and site coordinates for each of six emplacements for each of 145 Red batteries
REDSCD(145,6)	variable	Data (six values) on each of 145 Red batteries that can contribute at least 5.0 percent to current counterbattery fire mission
REL(25)	-	In-flight reliability of each of 25 round types
RELI(25)		Reciprocal of in-flight reliability of each of 25 round types
REPAP	meters	Range round-to-round probable error modified by factor, XK, for current round type and range value (in CPE)

Variable	Units	Definition
REPM	meters	MPI probable error in range for current round type and range value (in CPE)
REPP	meters	Range round-to-round error for current round type and range value (in CPE)
REPTM	meters	Range MPI probable error including target location error for current round type and range value (in CPE)
RG(25,10)	kilometers	Range values for range versus error and EFC tables for each of 25 round types at each of 10 range values
RIFMIN		Not used in program
RIFTIM(33)	minutes	Not used in program .
RMX(25)	kilometers	Maximum range for each of 25 round types
RNDCNT(25,30)		Number of rounds of each round type for each of 30 range values (battery to target ranges)
RNDID(25)		Round caliber ID number for each of 25 round types
RNGC(11,10)		Number of rounds fired by each of 11 weapon systems for each of 10 ranges in excess of 30 kilometers
RNGMAX(11)	kilometers	Maximum range for each of 11 weapon systems
ROWHDR(20)	variable	Alphanumeric identifiers for 20 rows per page of hard copy out- put
RR		In-flight reliability of current round type

Variable	Units	Definition
RSPY(25)	rounds per hour	Resupply rate per battery for each of 25 round types
RTP(25)		Round identification for each of 25 round types (=1.0, ICM; =2.0, HE; =3.0, CLGP)
SAVAIL		Used to calculate average fraction of Blue tubes available over entire game
SAVRD(9,33)		Number of volleys saved for fire plan targets for each of nine round types at each of 33 Blue batteries
SBLD(11)		Number of rounds in basic load per battery for each of 11 weapon systems
SCED(2,33,30)	minutes	Start and end times for each of up to 30 fire plan missions for each of up to 33 Blue batteries
SCEDT(33)		Total number of fire plan missions assigned to each of up to 33 Blue batteries
SCENAR		Key to scenario being used
SDET(33)	minutes	Time since current detection/ acquisition process by Red force was initiated for each of 33 Blue batteries
SMFP(50,9)	variable	Fire plan results for each of up to 50 fire plans
SPL	meters	Submunition pattern radius (or length) for current ICM round at current range
SPRESS(187,4,15)	variable	Four data values for 15 suppression intervals for each of 187 batteries (Red and Blue)

Variable	Units	Definition
SPRET	minutes	Suppression time duration following cessation of incoming fire
SPRFLG		Suppression flag for current battery (=1.0, suppressed; =0.0, not suppressed)
SPRKEY		Suppression subroutines control flag (=1.0, use subroutines; =0.0, do not use subroutines)
SPW	meters	Submunition pattern width for current ICM round at current range
SQRTPI		$\pi^{1/2}$
SRDIX(16)		Alphanumeric weapon system title or alphanumeric round name and weapon system identification
SROF(11)	rounds per minute	Static rate of fire per tube for each of 11 weapon systems
SRSPY(11)	rounds per hour	Battery resupply rate for each of ll weapon systems
STORE(9,14)	variable	Data used by higher echelons in selecting battalions to fire a mission
STORMW(40)		Cumulative military worth value for each cumulative hour of game time up to a maximum of 40 hours
STYP(11)		Weapon system type for each of 11 systems (=1.0, cannon; =2.0, missile; =3.0, GSRS)
SVMW(6,33,30)		Military worth of target for six round types, 33 batteries, and 30 fire plans

Variable	Units	Definition
SURVBN(16,170)		Red battalion breakdown, including fraction not killed by non-artillery at current time and original amount
SURVNA(16,913)		Individual Red target breakdown including fraction not killed by non-artillery at current time and original amount
SYSID(11)		Identification numbers of 11 weapon systems
SYSORT(17,16)	variable	Data breakdown for each weapon system in the game
SYSTUB(11)		Number of Blue tubes in current mix for each of up to 11 weapon systems
TA(10,33)	minutes	Time of arrival at each of 10 emplacements for each of 33 Blue batteries
TAF(10,13)	minutes	Time of arrival at each of 10 emplacements for each of 13 FDCs
TAR(50)	variable	Temporary storage of data for non- fire plan missions, MET missions, survey missions, ATI missions, and fire plan header information
TBFPM(11)	minutes	Time between fire plan missions for each of 11 weapon systems
TBM(11)	minutes	Time between missions for each of ll weapon systems
TBSY(49)	minutes	Cumulative time that each FDC and battery in the Blue force were busy, up to current game time

Variable	Units	Definition
TD(10,33)	minutes	Time of departure from each of 10 emplacements by each of 33 Blue batteries
TDF(10,13)	minutes	Time of departure from each of 10 emplacements by each of 13 FDCs
TFADVL	minutes	Time required for a battery to fire the additional volleys when firing more than one volley on current mission
TFCLM	minutes	Minimum time required to fire a CLGP mission
TFK(15)	minutes	Time available for firing a CLGP mission at each of 15 interpolation points
TFP(43,75)	variable	Data values for each of 75 fire plan targets (See Table 3-10)
TGSV(6,33,30)		Target ID numbers for each of six round types available at each of 33 Blue batteries for each of 30 fire plan targets
THOUR	hours	Time at current hourly printout
TIFR(33)	minutes	Time that most recent incoming counterbattery fire was received by each of 33 Blue batteries
TIM(21,4,4)	minutes	Time data for various combinations and states of readiness of FDC computer transmission/processing
TIMNOW	minutes	Time current battery finishes firing its rounds
TIMSKY(33)	minutes	Time at which each of 33 counter- battery fire missions are scheduled; TIMSKY(1) is time of next counterbattery fire mission

Variable	Units	Definition
TIMVL(20)	minutes	Time of first volley for each of up to 20 batteries massing on this mission
TL	meters	Current target length
TLAX(49)	minutes	Cumulative time that each FDC and battery in the Blue force were idle up to current game time
TLE	meters	Current target location error
TLSTVL	minutes	Time of last volley of all volleys fired by the (up to 20) batteries massing on this mission
TMET(16)	minutes	Time of receipt of MET message at specified FDC
TMETZO	minutes	Time that original MET data were taken
ТМТ	minutes	Red battery memory time duration for counterbattery fire purposes
TMWHRS	/MW-hours	Total military worth hours at current game time
ТМХ	minutes	Game termination time
TMXFP(3,15)	or minutes	ID numbers and fire plan processing start times for each of 15 fire plans
TNK(15)		Number of Red tanks attrited by Blue artillery fire
T0T105(20)	variable	Output data for all systems of some common caliber
TOTATR(11)		Total attrition caused by a standard level of Red counter-battery fire against each of up to ll weapon systems

Variable	Units	Definition
ТОТЅ(6)		Total number of targets damaged for each of six artillery damage levels
тоттм	minutes	Not used in program
TP(9,25,10)	or meters	Pk(ICM) or radius of effects (HE) against nine target elements for 25 round types at 10 range values for a town environment
TPFU(11)		Number of tubes or launchers per fire unit for each of 11 weapon systems
TRAM(49)	minutes	Cumulative time that each FDC and battery of the Blue force were down due to RAM, up to current game time
TRFAL(11)	hours	Time to repair a long-term failure due to enemy attrition for each of 11 weapon systems
TRFAS(11)	hours	Time to repair a short-term failure due to enemy attrition for each of ll weapon systems
TRFFL(11)	hours	Time to repair a long-term failure due to firing for each of 11 weapon systems
TRFFS(11)	hours .	Time to repair a short-term failure failure due to firing for each of ll weapon systems
TRFML(11)	hours	Time to repair a long-term failure due to moving for each of 11 weapon systems
TRFMS(11)	hours	Time to repair a short-term failure due to moving for each of 11 weapon systems

Variable	Units	Definition
TRK(15)		Number of Red trucks attrited by Blue artillery fire
TRVM(45,10)		Round ID numbers for each of 45 round types and each of 10 postures in a town environment
TSTART	hours	Time of first print of game results
TSTCLK	minutes	Time up to which scheduled Red counterbattery missions will be executed
TTFP(43,15)	variable	Fire plan data for up to 15 fire plans when more than one battalion is required for fire plan execution
TTGF(2)	minutes	Time required to get float based on battalion echelon identification number
TTOTC(33)		Number of tubes out for tube changes for each of 33 Blue batteries
TTPOA(33)		Number of tubes out due to attrition for each of 33 Blue batteries
TTPOR(33)		Number of tubes out due to reliability for each of 33 Blue batteries
TUBAV(33)		Current number of tubes available at each of 33 Blue batteries
TUBIN(8,33)	minutes	Times when tubes will be returned to each of 33 Blue batteries
TUBLIF(11)		Tube life in number of rounds fired for each of 11 weapon systems

Variable	Units	Definition	
TUBOT(33)		Number of tubes out at each of 33 Blue batteries at current game time	
TW	meters	Current target width	
TZRO	minutes	Game start time	
USEDFP(45,33)		Number of times that saved rounds (for fire plan) were used for each of 45 round types saved by each of 33 Blue batteries	
VK1(15)		Number of tanks destroyed within time-available interval for each of 15 interpolation points (CLGP rounds only)	
VK2(15)		Number of APCs destroyed within time-available interval for each of 15 interpolation points (CLGP rounds only)	
VK3(15)		Number of trucks destroyed within time-available interval for each of 15 interpolation points (CLGP rounds only)	
VL	meters	Total length of volley being processed	
VOL(10)		Desired attack level for each of 10 postures	
VW ·	meters	Total width of volley being processed	
W		Constant = 0.693147 = 1n 2.0	
พา		Computed but not used (=2.0 ln 2.0)	
WGT(25)	metric tons	Crated unit weight for each of 25 round types	

Variable	Units	Definition	
WGTI(25)	(metric tons) ⁻¹	Reciprocal of crated unit weight for each of 25 round types	
WKS		Constant = $0.892437 = (-\pi \ln 0.7)^{-1}$	
WORK(4,16,4)	or minutes	Four priorities for each FDC and four data values for each non-fire mission	
WP(9,25,10)	or meters	Similar to OP(9,25,10) but for a wooded environment	
WRVM(45,10)		Round identification numbers for each of 45 round types used against each of 10 postures in a wooded environment	
XBSY(49)	minutes	Time that each FDC and battery of the Blue force was busy during last hour of game time	
XK	·	Factor for modifying deflection and range precision errors for current round type and range value	
XNRF(15)		Number of CLGPs fired (based on 2 tubes) within time available interval for each of 15 interpolation points	
XS(10,33)	kilometers	x-coordinates for each of 10 emplacement sites for each of 33 Blue batteries	
XSF(10,13)	kilometers	x-coordinates for each of 10 emplacement sites for each of 13 FDCs	
YS(10,33)	kilometers	y-coordinates for each of 10 emplacement sites for each of 33 Blue batteries	

Variable	Units	Definition	
YSF(10,13)	kilometers	y-coordinates for each of 10 emplacement sites for each of 13 FDCs	
;		·	

AMMO(I,J,K)

(10,10,14)

*I is the ith round type

J is the jth battery of the specified battalion

K is as defined below:

- =1, round number as entered from Subroutine ROUND
- =2, lethal area weighted over posture and environment for ICM rounds only
- =3, weighted lethal area divided by criterion
- =4, precision error (CPER) for round-to-round, meters
- =5, total system error (CPET), meters
- =6, expected fractional coverage (ECV)
- =7, number of rounds required for specified damage level
- =8, number of rounds available
- =9, number of rounds fired
- =10, effect achieved by number of rounds fired
- =11, lethal area for HE rounds weighted over posture and environment for "unwarned" postures
- =12, lethal area for HE rounds weighted over posture and environment for "warned" postures
- =13, total CPE for calculating estimated effects (ECPET), meters
- =14, number of equivalent full charge rounds (EQNR)

^{*}I= 1 through 5, ICM rounds ranked by greatest lethal area divided by criterion

I= 6 through 10, HE rounds ranked by greatest lethal area divided by criterion

BRY(I,J)

(11,10)

J is the battery number (fire unit) within the specified battalion

I is as defined below:

- =1, battery identification number
- =2, number of tubes available to fire in the battery
- =3, battery x-coordinate, kilometers
- =4, battery y-coordinate, kilometers
- =5, range to target squared, kilometers²
- =6, priority value of jth battery relative to other batteries in the battalion; smaller value is better
- =7, key to fire unit status
 - =1, available; =2, single busy;
 - =3, double busy; =4, not available
- =8, rate of fire, rounds per tube per minute
- =9, ith subscript of round in AMMO(I,J,K) array
- =10, battery number (KFU)
- =11, system number of this battery

DAMG(I,J)

(18,601)

J is the jth specific target ID in the DAMG array

I is as defined below:

- =1, target ID from QUE(1, IQ)
- =2, fractional value of personnel survivors due to artillery fire
- =3, fractional value of tank survivors due to artillery fire
- =4, fractional value of APC survivors due to artillery fire
- =5, fractional value of truck survivors due to artillery fire
- =6, fractional value of artillery tube survivors due to artillery fire
- =7, fractional value of radar survivors due to artillery fire
- =8, fractional value of missile launcher survivors due to artillery fire
- =9, original number of personnel in target
- =10, original number of tanks in target
- =11, original number of APCs in target
- =12, original number of trucks in target
- =13, original number of artillery tubes in target
- =14, original number of radars in target
- =15, original number of missile launchers in target
- =16, changed from "0." to "2." when cumulative damage from nonartillery and artillery fire results in critical target element damage greater than specified defeat level, i.e. a defeated target
- =17, number of platoons in target
- =18, ID number for type of critical element

FUATT(I,J)

(33, 12)

I is the ith Blue battery to which data applies

J is as defined below:

- =1, probability that battery has been detected at current site
- =2, time since detection process began, minutes
- =3, probability of acquisition at current site
- =4, time since acquisition process began, minutes
- =5, not used at this time
- =6, fractional value of Blue personnel survivors
- =7, cumulative short-term tube damage now in battery
- =8, cumulative long-term tube damage now in battery
- =9, cumulative permanent tube damage now in battery
- =10, corrects battery site (rocket systems only)
- =11, number of incoming fires received since last move
- =12, total number of incoming fires received thus far

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STORE(I,J)
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(9,14)

J is the jth Blue battalion being considered for current mission

I is as defined below:

- =1, the time that this battalion would receive message to fire, minutes
- =2, fractional damage this battalion can achieve
- =3, FDC that would process this mission
- =4, *posture sequencing flag
- =5, **General Support Rocket System (GSRS) flag

^{*}If STORE(4,J) \geq 1000., use posture sequencing when an HE round is the first one fired; otherwise do not use posture sequencing on this mission

^{**}If STORE(5,J) ≥ 5 ., consider only GSRS batteries against this target; otherwise, consider only cannon or missile batteries

SYSORT(I,J)

(17,16)

J is the jth Blue weapon system type

I is as defined below:

- =1, total military worth of Red targets attrited by jth Blue system type
- =2, total number of Red personnel attrited by jth Blue system type
- =3, total number of Red armor attrited by jth Blue system type
- =4, total number of Red trucks attrited by jth Blue system type
- =5, total number of Red artillery tubes attrited by jth Blue system type
- =6, total number of Red radars attrited by j^{th} Blue system type
- =7, total number of Red missile launchers attrited by jth Blue system type
- =8, total number of battery missions fired by jth Blue system type
- =9, total number of rounds fired by j^{th} Blue system type
- =10, total weight of rounds fired by jth Blue system type, metric tons
- =11, total cost of rounds fired by jth Blue system type, kilo-dollars
- =12, total number of incoming fires received by jth Blue system type
- =13, total number of Blue artillery tubes of jth Blue system type out due to attrition
- =14, total number of Blue artillery tubes of jth Blue system type out due to RAM
- =15, total number of Blue artillery tubes up of j^{th} Blue system type
- =16, average fractional value of tubes available of jth Blue system type
- =17, working slot for number of Blue artillery tubes up of jth Blue system type [used for computation of SYSORT(16,I)]

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